

# ADVANCED MANAGEMENT

Quarterly Journal

*The Society for the  
Advancement of Management*

**Measuring Salesmen's Performance**

**Profit Charts**

**Absenteeism Due to Illness**

**Executive Morale**

**Protective Labor Legislation and Defense**

**Labor's Participation in Time and  
Motion Study**

**Administrative Sequences**

**Pricing the Wage or Salary Scale**

April-June, 1941

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# ADVANCED MANAGEMENT

## Quarterly Journal

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## COMMENT

**M**ORALE is the total attitude resulting from the mobilizing of energy, interest and initiative in enthusiastic and effective support of some project or aim. Morale may arise or be striven for at numerous levels and for diverse ends. Defense is one major goal for which a high morale is wisely being sought today among the industrial workers engaged in defense production.

Industrial managers on the whole believe in and try to assure high morale among the upper supervisory staffs of their companies. Those efforts of personal acquaintance, friendliness, exchange of information, the proffer of praise where praise is merited—all contribute in a natural, almost spontaneous way to good morale at the executive levels. The entire defense program will thrive if the morale of managers can be taken as representative of the morale of all workers. But that such an assumption is valid is open to grave doubt on the part of anyone at all close to the sentiment and attitude of the rank and file in our defense factories. This is not to impute lack of patriotism to the workers. This is not to conclude that all the newspaper alarms about strikes are to be taken as seriously as the headlines intimate. In fact, the strike record, comparatively with 1917, is phenomenally low.

Rather, the crucial point is that the goal of defense—which may at any moment become a goal of offense and positive military victory—is not the kind of goal which the American worker takes to his heart without some specific morale-building efforts taking place.

Let any who entertain doubts on this score re-examine the history of industrial relations and of industrial morale-cultivating programs in 1917-18, when the gradual change in total attitude was tremendous, countrywide and unified to an unprecedented degree. Nor did this change arrive by chance. It came about by plan and might have come earlier had the need for the plan and the elements of a wise plan been widely recognized earlier. My purpose here is not to set forth the "how" but rather the "why" of this problem as managers confront it. And the "why" has to do with human desires and motives. How do we stir individuals into sustained effort toward a goal, is a question to be answered only as we know about basic drives, the mechanisms of substitute release, the effects of shared joint experience, the consequences of frustration and the impact of personalities upon one another.

Indeed, I sometimes think that the big function of management itself, in so far as it is the task of personal, supervisory direction, has to be radically redefined to be seen in its true character. For, on its personal side, management is the continuing effort to bring the deep satisfactions of associated, co-operative experience to a group of persons bound together by ties of a responsibility having to be jointly assumed. Management is the summons to a sense of community and common striving among individuals who would rather be led to achieve than be left to atrophy. Management is the guidance of that subtle reality, a collective will to do because to do is to be and to register as alive.

If managers could once begin to grasp in its deeper meaning that familiar truth that "man is a social animal," they would see that to provide an experience on the job which is an experience of happy sociality, is in reality the big executive job. If we could assure among workers a warm, sensitive, secure awareness of social belonging, the entire outward expression of this awareness would become attentiveness to the creative activity of production. People's will to work has been vastly underrated—and chiefly because the social inducements to work have been so frightfully lacking. And high among those social inducements is or can be the sense of each worker that he belongs to a purposeful and friendly gang. He wants and deeply needs to be "a regular guy in a regular bunch of fellers."

If it is objected that it is hard to point to many institutional settings in which we do in fact find people involved in "happy sociality," combined with high output, let the objection stand. For "sociality" to appear, some experience of satisfied desire—in a sense that one has security, sufficiency and status—has to arise. People cannot throb eagerly to a community sense (even in the small community of a workplace) if there has never been any actual community sensed and felt as good. The glow of fellowship in common striving, hardship, effort and victory, comes only where these are experienced in common. People do not rise to that sense of shared personal power which is exhilarating, to that sense of communal power arising among committed co-workers, if the only actual release taking place is the power drives of the boss.

Miss Follett's verbal shorthand about the superiority of a condition of "power with" people to the tactics of "power over" cannot be recalled too often. And the

*(Please turn to page 80)*

# Measuring Salesmen's Performance<sup>1</sup>

By ASA S. KNOWLES

Dean, College of Business Administration, Northeastern University

THERE is a growing tendency among sales and production managers to exchange ideas. Currently, shop managers are borrowing principles of selling to promote employee training; sales managers, in turn, are profiting from shop experience in the field of standard costs, material handling, and so on.

A recent survey by *Sales Management* reveals that 25 per cent of all salesmen produce 48 per cent of sales volume.<sup>2</sup> Individual sales managers go further, stating that 25 per cent of their selling force produces 75 per cent of their volume. These figures demonstrate clearly the need for tools to (1) measure regularly and fairly the relative performance of salesmen and (2) provide a basis for improving the production of those whose efforts do not produce satisfactory results.

Production managers discovered a similar need several years ago and developed tools to measure the efficiency of shop personnel. Experimentation is still under way, but the measuring tool developed has been tested sufficiently to prove its value and possible usefulness in the selling field. This tool is merit rating<sup>3</sup>—a measure of the effectiveness of employees in filling their respective jobs. It must not be confused with job rating, which evaluates jobs for purposes of determining base rates of pay, and it does not involve the use of various types of psychological tests which are used increasingly to select employees. The latter may be used in connection with merit rating when personal maladjustments are revealed which demand their use.

The author obtained the attitudes of some fifty sales managers and salesmen towards use of merit rating to measure salesmen at a round table on "Measuring Salesmen's Performance" held during the New England Sales Management Conference, on January 10, 1941. Some saw advantage in its adoption, and others questioned the need of any specific measuring device. Much of the skepticism disappeared, however, when the advantages of a merit rating plan were explained. It seems reasonable to expect sales managers to achieve benefits from merit rating similar to those already obtained by industry. These follow:

1. *Better understanding of work and men.* The development and operation of rating programs has forced those responsible for jobs and men to study them carefully. The outcome is a better understanding of both the jobs to be done and those attempting to do them.

2. *Increased production.* Employees who are rated appear to accept the existence of a rating program in the spirit of competition. An added incentive for superior achievement is thereby derived. In addition, those whose productivity do not come up to standard are uncovered and replaced.

3. *Special abilities are uncovered.* The appraisal and comparison of employees in terms of prescribed standards have brought to light men having special abilities. This has facilitated selections both for promotion and transfer.

4. *Prejudice and bias minimized.* Merit rating reduces guesswork and snap judgment. In the appraisal of employees, objective measures are substituted wherever possible, and those who rate are asked to deliberate in arriving at decisions.

5. *Fair and equitable pay is established.* Merit rating makes possible fair rates of pay because all employees are appraised in terms of the same specific factors, and completed ratings are reduced to numerical values. To this extent they are comparable when used for determining pay.

Employee rating is not new in the selling field. Progressive retail organizations have rated their employees for some time. Except for a few firms, however, there has been little done as yet in the rating of those salesmen who must call upon a client to promote and complete the sale of a product.

The sales manager of the small organization is in sufficiently close touch with his sales force to be constantly aware of its weak and strong points, selling effectiveness, etc.; in fact, the owners often do the selling. In the medium-sized and large-sized organization, however, the intimacy required to appraise salesmen and hold them to high standards of performance is not so readily achieved. Sales managers and top executives in such organizations, therefore, should welcome tools to measure the relative effectiveness of their sales representatives.

## Developing a Rating Program

Rating programs have proved most successful when developed on the individual firm basis. Existing plans seldom fit the needs of particular firms. The working out of a program arouses more interest in making the plan work both on the part of those doing the rating and those rated.

<sup>1</sup> Based on paper presented before the Second New England Sales Management Conference, Hotel Statler, Boston, January 10, 1941.

<sup>2</sup> *Sales Management*, Sales Management, Inc., New York, May 15, 1940, Volume 46, No. 11, page 35.

<sup>3</sup> Sometimes called "man rating" or "man evaluation."

A committee should be appointed to develop and operate the rating system. Its chief duties will include careful consideration of each of the following steps:

1. *Job Specification*: Establishing requirements for salesmen's jobs if they do not already exist.
2. *Purpose*: Formulating the aims and uses of the program for rating salesmen.
3. *The Rating Sheet*: Developing the rating form; selecting the type of form to be used; deciding upon the characteristics to be measured in the light of job analyses; developing a procedure for scoring (assigning point values to rating); determining a proper system for weighting individual traits in relation to jobs; considering application of objective measures.
4. *The Rating Procedure*: Determining: (a) Who will do the rating; (b) what instructions and training will be given those doing the rating; (c) how often ratings will be made, and (d) who will check completed ratings.
5. *Use of the Results*: Formulating policies regarding availability of ratings for general use of department heads, top executives, etc., and reaching a decision as to how they shall be used to assist salesmen to improve their job competence.
6. *Training of Raters*: Establishing and conducting a training program for those who are to make ratings.
7. *Educational Program*: Organizing and conducting an educational program among salesmen themselves regarding the foregoing.

Typical rating committees are composed of representatives from personnel departments, administrative staff members (top executives), and supervisors of those rated. Occasionally rating is done solely by those of one category, such as top executives, and still others comprise members from many different sources, including fellow employees and subordinates.

## I. JOB SPECIFICATION

An employee's effectiveness is truly meaningful only when it is judged in terms of a defined job. Careful job specifications will assist particularly in accomplishing the following: (1) determining the purposes of the rating program; (2) deciding the characteristics and traits to be measured, and (3) providing a fair basis for comparing and measuring the salesman's performance in relation to a standard.

Differences among organizations prevent making job specifications applicable to all positions having the same titles in different organizations. Moreover, variations and combinations in commodities sold and the different selling techniques used make descriptions of selling jobs difficult to standardize. The types of information that might prove useful in making job specifications for salesmen follow:

1. *Skill and Experience*: Special techniques, manual, motor and mental skills required. Distinguish between those tech-

niques and skills readily obtainable from a short training course and those which require considerable previous training and experience, including selling experience. Length of previous experience.

2. *Educational Background and Intelligence Needed*: General technical or special knowledge required expressed as equivalent to grammar school, high school or college.

3. *Responsibility*: Demands imposed regarding making decisions; directing subordinates; caring for sales equipment; degree to which accountable for sales development and efficiency (new accounts, customers lost, development of good will, etc.); monetary responsibility.

4. *Physical Effort Needed*: Muscular effort and strength required to fill the job properly; i.e., the hours of work, travel, mental fatigue, etc.

5. *Personality Factors Required*: Appearance, carriage, voice, tact, co-operation, loyalty, character, common sense and intelligence demanded.

6. *Leadership Qualities Needed*: Requirements for training others and instructing subordinates; patience in dealing with others; capacities for growth.

7. *Initiative*: Originality, imagination and ingenuity demanded; capacities for learning; demands job imposes in learning new methods, meeting new situations, grasping new ideas.

8. *Industry*: Amount of energy and self-starting qualities needed; diligence and care that must be exercised in fulfillment of duties; "stick-to-itiveness."

9. *Personal Efficiency Demanded*: Care and accuracy needed to complete necessary records and reports; importance of promptness in completing own work as related to position.

10. *Sales Volume*: Dollar sales volume expected as specified by quota for territory covered by salesman; recognizing purchasing power and population in territory covered; distances between customers; calls to be made; competitors covering same territory.

11. *Promotion of Product Lines*: Number of separate product lines to be promoted; number of product line sales expected per customer; recognizing differences in net profit to be derived from different items.

12. *Development of Good Will*: Missionary sales work; customer displays to be arranged; follow-up of complaints; service demands and adjustments.

13. *Special Requisites*: Age limitations; citizenship; special language abilities; professional affiliations; lodge, club memberships, etc.

## II. PURPOSE OF THE RATING PROGRAM

Completed ratings of employees are useful as guides to determine rates of pay, to select employees for promotion, to uncover individual weaknesses, and to point out the types of training which employees should undertake both to improve their present work and also to hasten promotion.

Early in its development, there must be decisions regarding the intended uses and groups to be affected by a rating program. Rating forms must be modified to meet particular needs and to measure different groups



## PART II—OBJECTIVE FACTORS

The rating for each of the following items is based on assigned points equivalent to the computed achievements for each item.

1. Ratio of salesman's expenses to dollar sales volume.
2. Ratio of salesman's expenses to net profit.
3. Ratio of sales to sales quota.
4. Effectiveness in selling entire product line as measured by number of lines sold per sale.
5. Ratio of number of separate sales to number of calls.
6. New customers obtained.
7. Customers lost.

Total Points for Objective Factors:

Formulae	Maximum Rating	Point Rating
$\frac{SE}{V}$	50	
$\frac{SE}{NP}$	50	
$\frac{S}{Q}$	50	
	40	
$\frac{NS}{NC}$	20	
	20	
	20	

## DO NOT FILL IN THIS SPACE

## Rating Summary:

Point Ratings Part I.....  
Point Ratings Part II.....

## Total Point Rating:

Rated by.....  
Position .....

## Over-all Rating Scale

(Expressed as percentage of maximum score calculated for firm based on experience)

88-100.....Superior  
63-87.....Above Average  
38-62.....Average  
13-37.....Below Average  
0-12.....Unsatisfactory

Reviewed by.....  
Filed.....(date)

of employees. The main purposes of each should be as few as possible and receive primary attention. If other advantages are sought, they are often best achieved as by-products of the main purposes.

## III. THE RATING SHEET

Rating sheets generally fall into one or a combination of four types: the graphic rating scale, rating by letters, rating by grouping, and specific items.<sup>4</sup> The results achieved from each are a direct reflection of the care and effort exercised in its development. Subjective judgment of individuals is minimized when objective measures are introduced. Particular care must be exercised, therefore, in developing the latter, and when

ever possible, objective measures should be used. If the subjective section of the rating form is to be simple and clear, the rating committee must not overlook these considerations:

1. Job specification factors must be rephrased and regrouped in terminology which will cause the rater to think of them in terms of demonstrated performance.
2. The information sought must be obtained by the use of as few traits as possible.
3. The traits to be measured must be set forth in simple language.
4. Care must be taken to avoid confusion in definitions.
5. The form must be one that can be scored simply and be readily understood both by those who are to use it and those to be rated by it.

*Rating subjective measures.* When dealing with human behavior, we have no convenient physical units of

<sup>4</sup> For detailed description of these, see Knowles, Asa S., "Merit Rating in Industry," Northeastern University Publications, Bulletin No. 1.

measurement such as exist in the physical sciences. Ratings must be made as a matter of judgment, rather than by means of an accurate scale. In rating employes, numerical scales and weights function as a device to facilitate more exact appraisal of personal characteristics by making possible comparisons of total scores computed for the individuals rated (8 for superior; 6, above average, etc.—see Illustration). *A primary requisite in setting up such a scale is that the designation for each separate rank between imperfection and perfection must be in proper relation to the whole scale.* Just what arbitrary scale is selected is unimportant compared with a proper understanding of the scale by the raters and the interpretation of the final scores by executives.

*Weighting Individual Traits.*<sup>5</sup> All factors are not of equal importance in the performance of jobs. Consequently, it is necessary to construct weights which will give proper significance to each as related to a specific position; i.e., it is important to recognize various factors as being essential, desirable, or unimportant in filling properly the job under consideration. For example, if no points were given a trait relatively unimportant to a particular job, but generally desirable in the character of all employes, this trait would be omitted from the rating sheet. In any such scale, it is advantageous to have the distance between each of its designated degrees from essential to unimportant in proper relation to the whole range.

The smaller the gap between the numerical weights in relation to the whole scale, the less will be the distortion of the total point ratings for various individuals.

*Rating Objective Measures.* Objective measures enhance the reliability of ratings and simplify the procedure. Sales work quite naturally lends itself to the use of pertinent objective measures. Three main ratios are suggested below, these may be used to measure the performance of individual salesmen. As measures they are closely related and produce similar results; consequently, they may be used jointly or individually. In either case, proper care must be taken to give proper weight to the maximum points assigned them in relation to other objective factors on the rating form.

1. *The ratio of salesman's expense to dollar sales volume.* This ratio shows whether or not the company's funds are being expended wisely and effectively by each salesman in achieving a given sales volume.

2. *The ratio of salesman's expense to net profit.* This ratio

<sup>5</sup> For detailed discussion, see Knowles, Asa S., "Merit Rating of Supervisors, Foremen, and Department Heads," *Personnel*, American Management Association, New York, November, 1940, Volume XVII, No. 2, pages 123-124.

reveals the extent to which each salesman is selling profitable product lines. Those products which are most easily sold are not always those with a profit margin sufficient for an adequate net profit. This ratio points to the need to give proper attention to the development of the entire product line offered for sale or different product lines, except where different items are sold for service purposes only.

3. *The ratio of sales to sales quota.* This ratio measures the extent to which every salesman meets his assigned task with respect to volume. It assumes that quotas are set fairly and are not intended to be "out-of-reach" goals; i.e., that sales quotas are set after proper consideration of population, purchasing power, number of competitors in an area, etc. (The cause for failure to attain a given quota may be revealed by analysis of the subjective considerations and other objective factors.)

In addition to the foregoing suggested main ratios, there are other possible objective measures to which some organizations may properly attach importance. These are in reality merely more specific indications of accomplishments that are reflected in the first three main ratios.

(a) *The ratio of the effectiveness in selling an entire product line as measured by the number of items sold per sale.* This ratio will give specific data on the tendency of salesmen to push specific items, often at the expense of others. Companies wishing to promote an entire product line can make effective use of this subordinate ratio.

(b) *The ratio of the number of separate sales to the number of calls.* This is an indication of personal selling ability. It gives more detailed information on poor accomplishments as shown in point ratings under the main ratios 1 to 3. If low, it is cause also for a careful review of ratings of subjective factors.

(c) *New customers obtained.* Sets forth in detail the number of new accounts for which a specific salesman is responsible. This is reflected in the first three main ratios given above, but is useful additional information.

(d) *Customers lost.* Another piece of specific information which it is desirable to have because firms often wish to know why customers are lost, but this again is reflected in the salesman's performance as shown in the main ratios 1 to 3.

#### IV. THE RATING PROCEDURE

No two organizations follow the same procedure in rating employes. Typical among those who would logically rate salesmen are members of the personnel department, sales managers, sales supervisors, and possibly fellow salesmen. Where the latter are asked to participate, great care must be taken to view the results for possible prejudice and bias.<sup>6</sup>

*Who will rate:* Experience teaches that employe rat-

<sup>6</sup> See Shelton, Henry Wood, "Mutual Rating, A Contribution to the Technique of Participation," *Bulletin of the Taylor Society*, Taylor Society, New York, April, 1920, Volume V, No. 2, pages 59-67.

ing is most effective when it is done by those who have definite knowledge of the position held by the person rated (the job specification sheet can be of great help in this connection, but it is by no means as productive of desired results as personal knowledge of a position).

*Instructions:* It is most important that uniform instructions be given those who are to do the actual rating. Unless the same terminology and rules are applied by all who rate any individual, the results achieved will not be comparable, and the persons rated may suffer from unfair treatment.

*Frequency of Ratings:* Best practice seems to indicate that employees should be rated once a year, and on occasion twice a year. It is also desirable to rate employees prior to any change of position or promotion.

*Checking and Reviewing:* It is good practice to have completed ratings checked or reviewed by members of the personnel department or some officers higher than the persons doing the rating. Moreover, it is generally agreed that where data regarding individuals are on file, ratings should be compared with previous ones by the personnel department. The principal value of reviewing is to reveal any great discrepancies in ratings and to ascertain whether or not salesmen are making progress.

## V. USE OF THE RESULTS

Completed ratings are most useful when they are analyzed to show how well those rated meet the requirements of their jobs as defined in the job specifications. It is customary for firms to discuss completed ratings with each person rated. A primary purpose of rating programs is to uncover any individual shortcomings and to use completed ratings as a basis for making constructive suggestions.

## VI. TRAINING OF RATERS

It should be the function of the committee in charge of rating to meet periodically with those who rate salesmen and provide opportunities for discussion of the rating program. Such discussion groups could be the nucleus for the development of a rating manual to be used by others less familiar with the rating program who may be called upon to participate in it.

Most rating sheets contain brief prefatory instructions which help to insure uniformity in procedure. Typical of these are those which appear on the rating sheet presented in the Illustration.

Raters are usually instructed to deliberate in making ratings. This is sound practice and is particularly productive of results when raters discuss among themselves the persons being rated. The discussion method is principally used, however, in modifying separate ratings already made privately.

## VII. EDUCATIONAL PROGRAM

Any employees rated should be thoroughly acquainted with the factors by which they are to be appraised in order that they may make the best possible showing with respect to each. The method of weighting and scoring these factors should be explained to them, and they should be allowed to criticize features of the rating form which they believe to be unfair. Furthermore, the success of the program is by no means certain unless those rated are given these assurances regarding the rating program: (1) ratings are to be made fairly and without discrimination; (2) all ratings will be reviewed by impartial judges; (3) ratings will be used to improve a man's worth to the firm and not as a weapon of dismissal; (4) each man rated will be given a clear picture of his rating and an opportunity to defend himself if he is convinced that he has been treated unfairly.

### Dangers of Rating

The primary sources of danger in any rating program are the rater himself, the rating form, the frequency of making ratings, secrecy regarding the results, and inadequate education.

*The Rater Himself:* The results to be achieved from rating can be no better than the judgment, honesty and fairness of those who administer it. In order to protect salesmen against possible dangers which may arise in this connection, it is desirable that raters be required to justify their ratings. Moreover, care must be taken to assure that ratings are always reviewed by superiors and compared with previous ones.

*The Form:* Too much care cannot be exercised in the selection of traits to be measured and the formulation of clear definitions. If this is not done, rating results are likely to be unsatisfactory. Forms should be printed attractively on good paper so that those who are to rate will attach due importance to what they are doing. (A mimeographed form has a bad psychological effect.)

*Frequency:* When ratings are made too often they become irksome, and the results suffer from haste on the part of the raters. The committee in charge of

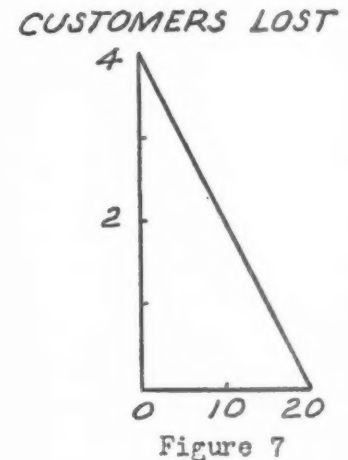
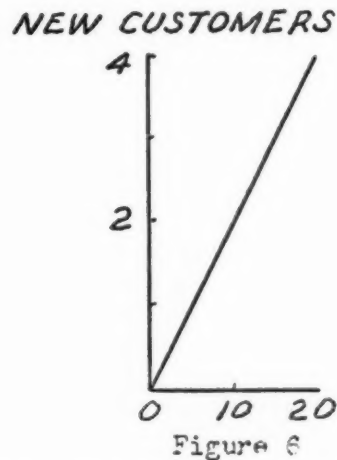
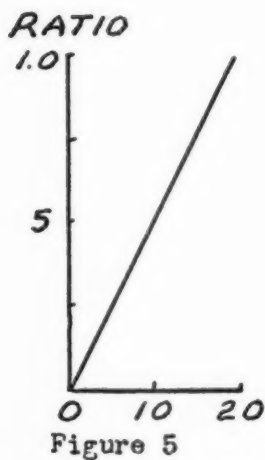
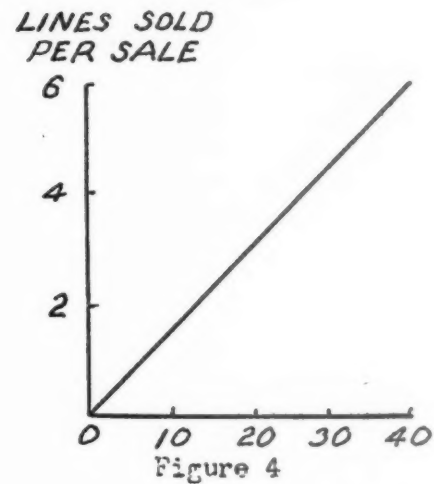
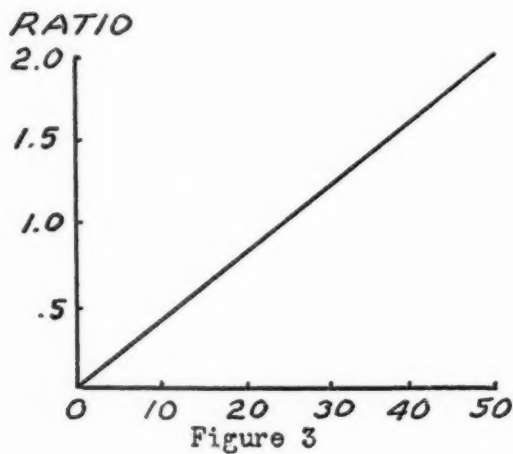
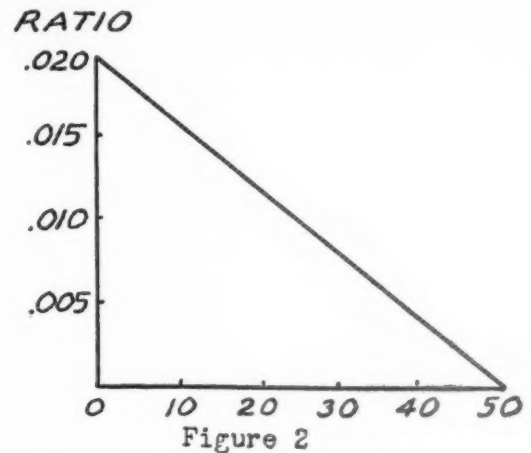
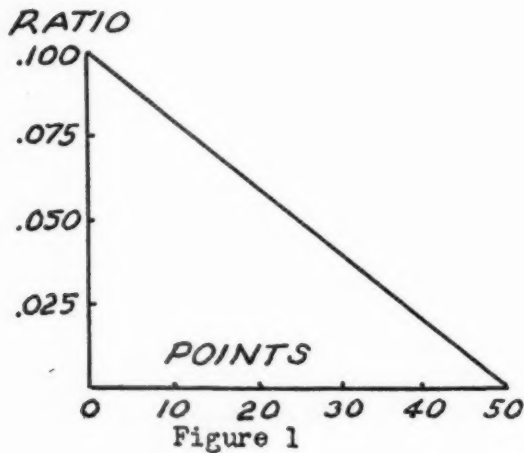


Figure 1.—Point ratings for sales expense to sales dollar volume.

Figure 2.—Point ratings for sales expense to net profit.

Figure 3.—Point ratings for sales to sales quota.

Figure 4.—Point ratings for effectiveness in selling entire product line as measured by number of items sold per sale.

Figure 5.—Point ratings for separate sales to number of calls.

Figure 6.—Point ratings for new customers obtained.

Figure 7.—Point ratings for customers lost.

developing rating must see to it that ratings are made with sufficient frequency to be useful and comparable, but it must guard against too frequent ratings.

*Secrecy:* The primary purpose of ratings is to correct shortcomings of those who are rated. Each salesman is entitled to frequent, impersonal, constructive discussions of his rating. Unless this is done, animosity and distrust will be aroused and may forestall intended benefits for both top management and salesmen.

*Inadequate Education:* Possibly the greatest danger to any rating program is lack of understanding of its purposes and uses. No matter what amount of care is exercised in developing a system and how fair it is in execution, unless its purposes and intended uses are made very clear to those who are affected by it, the program will be enshrouded with mystery and give rise to suspicion and distrust. Such misunderstanding can only nullify the whole rating program.

#### Suggested Rating Program for Salesmen

There follows a suggested program for rating salesmen. It is not intended for use in any particular business or type of organization, but is suggested as a guide for companies wishing to develop a rating system. The form shown in the Illustration has been designed for a single purpose; i.e., the measurement of the effectiveness of the salesmen in their present work; and as a corollary, the improvement of their sales effectiveness by calling attention to individual weaknesses that can be corrected.

Possible by-products of the achievement of the main objective will be the following: (1) the ratings will serve as a guide to select men for promotion; (2) serve as a guide in determining salesmen's salaries, and (3) call attention to special abilities.

The writer designed Parts I and II of the rating form to be used jointly. It is appreciated, however, that many sales managers may wish to use Part II only, except as circumstances may require the making of subjective ratings to support conclusions drawn from Part II. Because there will be a tendency to use the form in this way, Parts I and II will be described in reverse order.

Part II of the rating form attempts to measure sales performance objectively. It is appreciated that the first three ratios listed produce similar results, and on first reading may appear to be unnecessary duplication. The writer believes, however, that different approaches have value, and that the objection of duplication is offset by

weighting the maximum points assigned to each; i.e., each of these ratios is assigned 50 points. If one were to be selected to be used instead of the three, it should be assigned 150 points.

Figures 1 to 4 provide a basis for calculating the point ratings to be assigned each of the objective factors listed in Part II of the rating form. The vertical axes of figures 1, 2 and 3 show the ratios for each item which are for illustrative purposes only. These become meaningful for individual firms only when they are interpreted in the light of actual figures based on each firm's experience.

The vertical axis of figure 1 shows the ratio of selling expense to the sales volume obtained by the salesman. A maximum selling expense of 10 per cent of sales volume has been adopted arbitrarily. A salesman whose selling expense approximates .075 of his sales volume will receive a point rating of 12. In figure 2, the salesman whose ratio of selling expense to net profit is .010 will achieve a point rating of 26. The ratio shown on the vertical axis of figure 3 recognizes that a salesman may exceed his quota. A salesman who reaches his quota (1.0) will receive a rating of 25. The vertical axis of figure 4 assumes that a firm has six product lines. A salesman who has averaged a sale of four out of six per sale will receive a rating score of 27.

The data for items 5, 6 and 7 for Part II must be calculated from actual sales records and the point ratings computed in order to assign ratings within the maximum points allowed as illustrated in figures 5, 6 and 7. For example, under item 6, if a firm having five salesmen obtains three new accounts during a given period under consideration, and a salesman being rated is responsible for two of these, he will receive a point rating of 10.

Instructions for using Part I appear at the top of the rating sheet. These are numbered to correspond with the columns. In column 1, the salesman rated is checked as "superior," "above average," etc., with respect to the traits listed. Column 2 provides space for recording the rater's observations of weaknesses or shortcomings of the individual rated. These remarks will prove helpful when referring to the form at some later time and serve indirectly as a means of justification of each rating. All traits do not have an equal bearing on all sales positions, and consequently, provision is made in column 3 for weighting each trait as "essential," "desirable" or "unimportant" to the particular job held by the salesman being rated. Column 4 records the total point

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# Profit Charts to Aid Management

By WALTER B. McFARLAND

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ONE of the cardinal principles of scientific management is that executives who determine policies and plan operations should look forward to definite predetermined objectives. Those executives who are charged with the duty of formulating policies and plans must necessarily keep in mind the effect of each circumstance affecting the company's income account in order to select as a goal that attainable combination of conditions which promises the largest net profit.

In order to facilitate the study of this problem, it is desirable to pick out the main factors bearing upon the net profit figure. It can then be seen that the final result of operations will be determined by the following causal influences:

1. Physical volume of production and sales
2. Price level at which product is sold
3. Price level at which costs are incurred
4. Efficiency of operations
5. Methods and facilities used

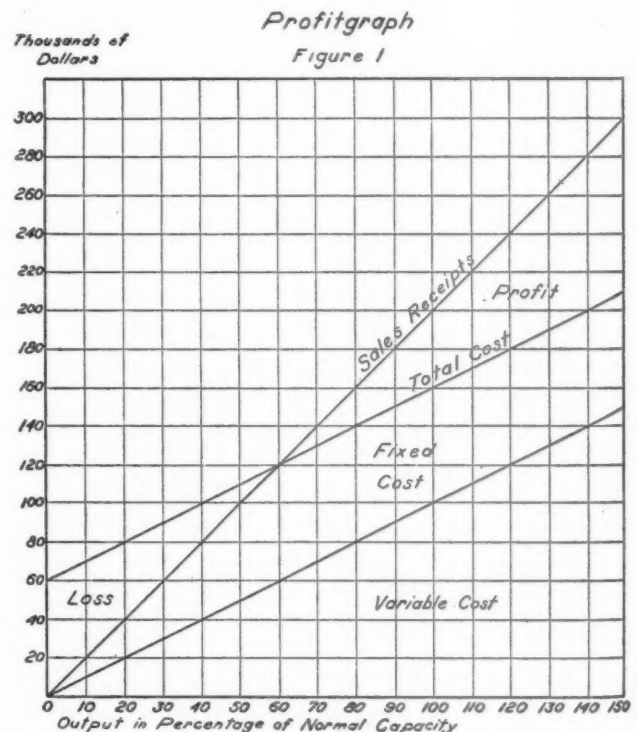
These are, of course, general headings each of which covers a great variety of things, but for planning it is essential that details be summarized to keep the figures from becoming unmanageably complex. When thus reduced in number, it becomes possible to ascertain with at least reasonable certainty what the relationship is between these factors and net income.

The basic figures may be presented in various forms, but graphic methods for showing relationships are probably the most effective because they can both summarize details and facilitate visualization of the data. For this purpose C. E. Knoeppel designed a chart some years ago which he termed the "profitgraph."<sup>1</sup> This profitgraph has proved to be a useful device for demonstrating the co-variation of costs, output volume and profit and it is now well known among those interested in management methods.

This type of chart possesses, however, certain limitations in the scope of the data that it can represent. One of these is that all causal factors other than output volume are assumed to remain constant. Thus in order

to show the effect on net profit of both a change in volume and a change in price of the product, two separate charts must be drawn, one for each price level. Each change in product cost likewise requires an entirely new chart. When a number of such charts must be compared, the process of interpretation becomes an awkward one indeed. It is, however, an easy matter to convert the profitgraph into a chart which can display the effect of simultaneous variation with two independent factors and this article will be devoted to showing how such an object can be accomplished.

In the first place, the reader's attention is directed to Figure 1, a profitgraph of the usual form. The profit



and loss areas on this chart may be represented in the following simple equation from which a new chart will be developed:

$$\text{Total profit or loss} = \left( \begin{array}{c} \text{Total sales} \\ \text{revenues} \end{array} \right) - \left( \begin{array}{c} \text{Total} \\ \text{cost} \end{array} \right) \quad (1).$$

<sup>1</sup> See Knoeppel, C. E. and Seybold, Edgar G., *Managing for Profit*, McGraw-Hill Book Company, New York and London, 1937.

The two right-hand terms in this equation may be broken down into these elements:

$$\text{Total sales revenues} = \left( \frac{\text{Selling price}}{\text{per unit}} \right) \times \left( \frac{\text{Number of units}}{\text{produced}} \right).$$

Total cost =

$$\left( \frac{\text{Total fixed cost}}{\text{cost}} \right) + \left( \frac{\text{Variable cost}}{\text{per unit}} \right) \times \left( \frac{\text{Number of units}}{\text{produced}} \right).$$

When equation (1) is expanded, it thus becomes:

Total profit or loss =

$$\left( \frac{\text{Unit selling price}}{\text{price}} \times \frac{\text{number of units}}{\text{produced}} \right) - \left[ \frac{\text{Total fixed cost}}{\text{cost}} + \left( \frac{\text{Variable unit cost}}{\text{cost}} \times \frac{\text{number of units}}{\text{produced}} \right) \right] \quad (2).$$

If actual figures are inserted in this equation it yields a series of profit and loss figures in which each figure represents the indicated or forecasted result from operating under a specific cost-price-volume combination.

These figures can be plotted on a chart by themselves and when this is done a single line representing the variation in profit with changes in output replaces the profit area on the conventional profitgraph.

Any one line in Figure 2 may be used to illustrate the above statement. Thus the line with price at \$2.00 per unit would be derived as follows:

Let the constants in equation (2) be:

Unit selling price .....	\$ 2.00
Total fixed cost .....	60,000.00
Unit variable cost .....	1.00

Volume of output is a variable which may take any value assigned to it. In order to draw the profit line, two points on this line must be located. Values of 30,000 units and 100,000 units respectively are therefore chosen for the volume factor. Total loss at the 30,000 unit output level then is:

$$\text{Loss} = (\$2.00 \times 30,000) - [\$60,000 + (\$1.00 \times 30,000)] = \$30,000$$

Likewise, total profit at the 100,000 unit level is:

$$\text{Profit} = (2.00 \times 100,000) - [\$60,000 + (\$1.00 \times 100,000)] = \$40,000$$

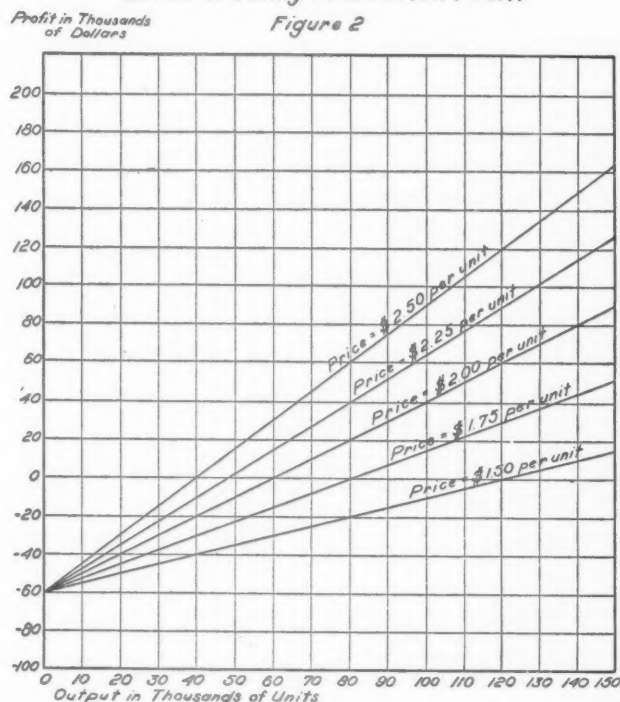
These points are then located on the chart and a straight line drawn through them.

With these facts in mind it is now possible to develop a chart which shows the effect on profits of varying two causal factors instead of one. This process will be described by taking volume of output and unit selling price as independent variables and assuming the other factors affecting total profit to be constant. The initial step is to select a series of unit price figures whose effect man-

agement wishes to test. These will each represent possible prices for the company's product. Next, the price figures are used one at a time in equation (2) and the results plotted as described.

That is, the calculations described are repeated using in place of the \$2.00 selling price first \$2.25, then \$1.75, and so forth, until all prices to be tested have been substituted in the equation at each of the two output levels. Figure 2 illustrates the result.

Effect of Selling Price on Net Profit

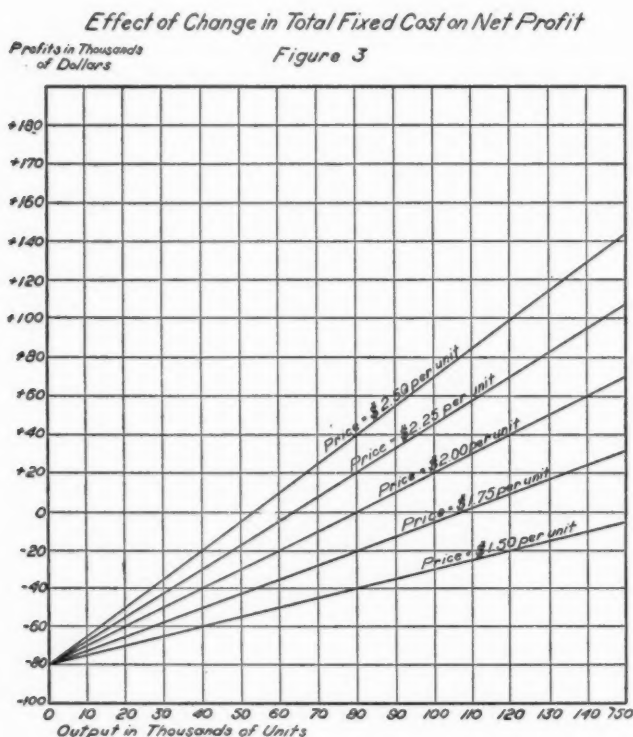


It will be noted that a series of profit lines is obtained. By selecting the line corresponding to the desired price it is possible to read the forecasted profit at any given output volume. Thus, for example, if management is contemplating a reduction in price the chart will very quickly tell what volume must be secured to break even or to realize any desired total profit at each of the several price figures that might be adopted.

A similar chart can be drawn to represent variations in both output and unit variable cost of production. Again a series of lines originating at a common point and diverging as output volume rises will be secured. No illustration has been drawn here because the chart would look very much like Figure 2.

The effect of varying either unit selling price and output or unit variable cost and output is to alter the slope of the profit lines. If now a change in total fixed

cost takes place, the point at which the series of lines originates will be moved upward or downward depending upon whether the change in fixed cost is a decrease or an increase. This point of origin is merely the total fixed cost when output volume is zero and since there will be neither variable cost nor sales revenues without output, the point indicates the total loss at zero output. A change in total fixed cost also shifts the break-even points to the left or to the right according to whether the change in cost is a decrease or an increase. These effects may readily be seen by comparing Figure 3, in



which total fixed charges have been increased to \$80,000, with Figure 2. From such charts it is easy to predict what effect any given change in selling price, fixed cost, variable cost or output will have upon the firm's net profit.

Similar charts can be used to compare the effects that will be produced by changes in equipment which alter the relationship between fixed and variable cost. In order to illustrate such an application, it may be assumed that the installation of new labor saving machinery is being considered. First the following necessary data are assembled:

Costs with present equipment as shown by cost records:

Total fixed cost .....	\$60,000.00
Unit variable cost .....	1.00

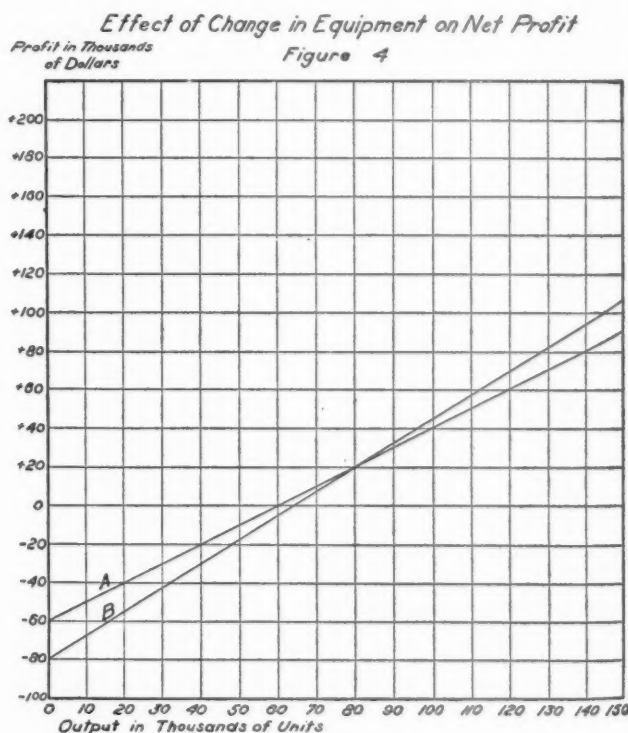
Costs after installation of new equipment per engineering estimates:

Total fixed cost .....	\$80,000.00
Unit variable cost .....	0.75

Selling price is to remain unchanged at \$2.00 per unit.

From the above figures it is evident that by an increase of  $33\frac{1}{3}$  per cent in total fixed cost, the unit variable cost can be reduced by 25 per cent. However, the probable effect that the proposed change will have on net profits at varying levels of output is not so readily visualized. As all experienced executives know, expensive automatic machines are preferable to hand labor only when the machines can be kept operating for a sufficient portion of the time.

The facts concerning the present case can be clearly and compactly presented with a profit chart similar to those already described. In Figure 4, line A repre-



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# Meeting the Problem of Absenteeism Due to Illness

By KINGSLEY ROBERTS

Medical Administration Service

and MARTIN W. BROWN

Group Health Federation of America, Inc.

## The Problem

**A**BSENTEEISM due to illness is costing industry more than \$60 per employe per year. It is costing the employes more.

On any given day, among every thousand employes twenty are, productively speaking, non-effective; many more are only partially effective. Strikes in 1940 resulted in a loss of about two hours per worker per year. Absenteeism due to illness, which never makes the headlines, resulted in a loss of approximately eight days per worker. The toll of illness has been estimated as 400,000,000 man-days per year. Absenteeism due to illness, in effect, has closed more than a thousand factories each employing a thousand workers.

Sickness levies an indirect tax on industry. It causes turnover of personnel, transfer to new work, and increases the cost of employe training. For every absent employe, there are those in poor health at work. And this drags down the level of production. The psychological hazard of insecurity, the fear of illness and its consequent cost, breaks in on the concentration of the employe and affects his work.

The cost to industry of absenteeism due to illness runs into billions of dollars annually. The cost of the partially effective employe is incalculable. There is grave danger that industry will become complacent over the success of industrial medical services for the prevention and control of occupational injuries and diseases and will be blinded to the fact that they have under cultivation not a farm but a flowerpot. Occupational injuries and diseases cause less than 10 per cent of absenteeism due to illness. They constitute less than 10 per cent of the problem. In the present situation, the 90 per cent of absenteeism due to non-industrial illness must be the concern of responsible management.

The race for production is on and industry is dragging an anchor. Few companies can say as Dr. James M. Adams of Standard Oil of Louisiana said: "Sickness rates in the personnel of the refinery have fallen consistently since the organization of the association

(Stanocola Employees Medical and Hospital Association) and we feel that it results in part from improved medical service and preventive medicine as practiced by the association."

Management has a responsibility to solve this problem. It has the responsibility to protect the health of the employe, for this is an asset without which industry could not exist. There can hardly be any stress of policy so great that management will feel that it cannot afford the cost of conserving its greatest resource.

The existence of this problem should be no surprise to management. Personnel directors are frequently called upon by employes to assist in meeting family problems bearing no direct relation to their work. Among these, problems caused by sickness are recurring. They further have some knowledge of the scattered medical service plans operated by industrial concerns which it is estimated provide care to several million employes throughout the country.

As a result of the knowledge and experience thus obtained, management is well aware of the serious nature of the problem, its cost to industry and its effect upon the lives of the wage earners.

It is the purpose of this article to inquire briefly into the ways of reducing absenteeism due to illness and of alleviating the burdens now falling on the employes. Several plans serving industrial employes will be described, the variations discussed, and problems of planning reviewed in the hope that such an analysis will be of assistance to management.

## The Variety of Plans in Industry

Medical plans serving industrial employes have followed no fixed pattern. They have been organized for different reasons and under different conditions. Illustrative of one type of plan serving industrial employes is that of the American Cast Iron Pipe Company which provides, through the company medical department, free medical care including examination of new employes and care of industrial injuries to its 1,100

employees and their dependents. This extensive service is supported by the company at an annual cost of approximately \$19 per person. This service is rendered by four full time and ten part time (specialists) physicians, two dentists, six nurses and a laboratory technician.

In a second type of arrangement, the employees of the Union Oil Company, through the Employees' Benefit Plan, may receive service from any physician in Los Angeles for diagnosis, treatment and hospitalization up to a value of \$500 in any one illness. This service is financed by employee contributions of \$2 a month with the company contributing the cost of administration.

A third distinct type of service for industrial employees is that rendered by the Milwaukee Medical Center. The Center, staffed by twelve full time physicians, offers a prepaid service to the community and especially to employee groups. The cost of the Center's diagnostic, therapeutic and preventive services are \$1 a month for an individual and \$3 a month for families.

In the Chart, seventeen plans all providing care to industrial employees for non-industrial illnesses are outlined, illustrating the variety in auspices, services, distribution and organization. It will be noted the plans are under the auspices of management, employees, unions, medical societies, private doctors, co-operatives. These plans are financed by the companies, by the employees or by both, jointly. Benefits vary from cash payments in reimbursement of physicians' or hospital bills to almost complete and comprehensive care. These services are distributed by groups of full time physicians, or by panels of selected physicians, by a combination of these, or by any licensed physician. Some plans offer services to dependents; others do not.

#### Why the Variety?

The variety of these plans is at first bewildering. But when they are considered in the light of the particular circumstances to be met in each case, it becomes apparent that most arrangements represent the best way in which the respective managements could have acted.

Why does Consolidated Edison have a panel of physicians, Northern Pacific Railway a combination of both panel and full time staffs, and American Cast Iron Pipe Company only the latter? Why are services rendered in some instances through departments of the company and in others through community plans?

The employees of Consolidated Edison work not only

in generating or producing plants of the company but in service departments requiring work throughout the area of operations. Others are doing office work. In other words, the employees are not concentrated in one place. They reside over an area exceeding the 310 square miles of the City of New York. Employees could not be served from a central point selected either with reference to area of work or of residence. The alternatives faced by the management were fourfold: (1) It could have participated in a community plan, but none existed at the time the plan was organized; (2) It could have developed a cash plan along the lines used by East Ohio Gas Company; (3) It could have organized a "free choice" plan as in the case of the Union Oil Company; (4) It could have established a selected panel plan.

The second and third alternatives offered peculiar difficulties for Consolidated Edison because of the administrative problems created by the great number of physicians in New York, the varying fees charged and the differing skills and abilities among these physicians. Further, any cash or free choice plan requires authorization of payment for a multitude of services and maintenance of relationships with an undefined group of physicians and this imposes a difficult administrative burden upon the plan. The problem could, of course, have been eased by allowing any physicians to register with the company in advance, permitting employees to select any physician so registered as is the case of the King County Medical Bureau. But it was also apparent that all physicians would not register and that there would be no control over the qualifications of those physicians who did register. The next step was logical and that was to select carefully as many physicians as would be needed to care adequately for the employees. The panel plan finally developed along these lines is thus a reasonable solution of the problem of planning under the given circumstances.

The situation of the Northern Pacific Railway was in many respects similar to that of Consolidated Edison. But the differences made possible another solution. The employees work and live over a vast area—all along the extended lines of the railway. Contracts with a panel of four hundred physicians throughout this territory were necessary. But, the mobility of the working force, the hazards of the work, and especially the inadequacy of medical resources through much of the area, made necessary a concentration of facilities at strategic points. Five hospitals, staffed by full time physicians, were therefore developed.

The American Cast Iron Pipe Company, not faced with a problem of scattered employees, was able to develop a service built around full time physicians without the additional necessity of a selected panel.

In essence, this is the method used by the mills in Roanoke Rapids, North Carolina. There each company was too small to support an adequate service by itself. By joint action a reasonable solution, similar in outline to the plan of American Cast Iron Pipe Company, became possible and was achieved.

The Milwaukee Medical Center was originally developed by a group of private physicians at the request of the Employees' Council of the International Harvester Company plant in Milwaukee to meet their desires for an adequate health service. The employees were not of sufficient number and did not have the technical knowledge or resources to develop the desired service themselves. The organization of the Center, stimulated by them but independent of the company, offered a solution, as the physicians involved retained their private practice and could serve other groups desiring similar services. As a result of employee demand, a plan with a medical center, staffed by full time physicians, was developed which serves many others besides employees of the Harvester Company.

#### The Small Company

The smaller company, particularly in a metropolitan area, could not have approached the problem in the way many of these companies did. Even a satisfactory panel plan requires a minimum of employees to warrant its establishment and few companies would be justified in undertaking such a task. For them, the recent organization of group health plans, such as that recently inaugurated in New York (Group Health Cooperative), offers an opportunity to the management of such companies. Through community action a plan is available in which management can participate and thus achieve the objectives sought. Similar plans exist in Boston, Chicago, St. Louis and many other cities. As the majority of companies have little alternative except to utilize the services of responsible community plans, a brief description of one of them may be helpful.<sup>1</sup>

Group Health Cooperative was organized in 1940 under a special article of the insurance law of the State of New York enacted in 1939 and received its license

to operate in the City of New York and surrounding counties in December of last year. Any licensed physician in New York may register with the plan whereupon his name will be submitted to applicants for the services. Services include diagnostic and therapeutic services of general physicians, surgeons, and specialists and cost \$18 per year. As a community plan of the same order as hospital service plans, Group Health Cooperative has been able to enlist the co-operation of many of the leading physicians of the city to supervise the quality of care rendered, control professional policy or to serve subscribers. If Group Health Cooperative had been in operation when the Consolidated Edison plan was organized, the management of the company would have had two practical solutions to its planning problem, a community plan or a panel plan.

Not all situations faced by management are as restrictive as some of those described. Few companies are as limited in their alternatives as Consolidated Edison or Northern Pacific Railway. East Ohio Gas Company could have taken action along several lines. It chose a plan providing cash benefits in reimbursement for services rendered rather than a plan providing the services themselves. It is reasonable to suppose that their objective was to alleviate the financial difficulties faced by employees seeking medical care rather than to reduce absenteeism due to illness.

#### The Objectives of a Medical Service Plan in Industry

The objectives of a proper program are threefold: (1) improved health of the working force; (2) security for the employee against the financial hazards of illness; (3) increased efficiency and raised production level.

The objectives can be achieved only by emphasis on health conservation with the services of physicians readily available to employees. This requires that the financial barriers of the fee-for-service system of payment be removed. Experience has indicated that freedom from the hazards of high or varying bills for medical care is fundamental to the development of a sound program. Further, if the program is to be effective, benefits must be in service not cash; and service must be built upon prevention and conservation rather than upon care only in cases of catastrophic illness. It is as unsound to provide limited special services for non-industrial illness as it has proved to be to provide care for industrial injuries and diseases only for the disabled worker. Hospital service plans may be com-

<sup>1</sup>Further information on such plans may be obtained from Group Health Federation of America and Medical Administration Service, 1790 Broadway, New York.

## CHART—MEDICAL CARE PLANS SERVING GROUPS OF EMPLOYEES

NAME	Auspices	Financing	Service or Benefits	Scope of Benefits	Method of Providing Service	No. Covered (Approx.)	Dependents Served?
(1) American Cast Iron Pipe Co. Birmingham, Alabama	Company	Company	Service	g, s, h, n, d	Group	5,350	Yes
(2) Consolidated Edison New York, New York	EMBA	Joint	Service	g, s	Panel	50,000	No
(3) East Ohio Gas Company Cleveland, Ohio	EMBA	Employees	Cash	g, s, h	—	1,000	Yes
(4) Endicott Johnson Corp. Johnson City, New York	Company	Company	Service	g, s, h, d	Group	51,000	Yes
(5) Goodyear Rubber Co. Akron, Ohio	EMBA	Employees	Cash	h	—	14,300	Yes
(6) Group Health Association Washington, D.C.	Employees Coop.	Employees	Service	g, s, h	Group	6,000	Yes
(7) Homestake Mining Co. Lead, South Dakota	Company	Company	Service	g, s, h, m	Group	6,000	Yes
(8) King County Medical Service Bur., Seattle, Washington	Medical Society	Employees	Service	g, s	Free Choice	36,000	No
(9) Milwaukee Medical Center Milwaukee, Wisconsin	Group Clinic	Employees	Service	g, s	Group	6,000	Yes
(10) Northern Pacific R.R. St. Paul, Minnesota	EMBA	Employees	Service	g, s, h, n, m, d	Panel & Group	20,000	No
(11) Roanoke Rapids Com. Serv. Roanoke Rapids, N. Carolina	Joint Companies	Joint	Service	g, s, h, n	Groups	5,000	Yes
(12) Southern Pacific R.R. San Francisco, California	Company	Joint	Service	g, s, h, m, n	Group	50,000	No
(13) Spaulding Bakeries Binghamton, New York	EMBA	Joint	Cash	g, s, h	—		Yes
(14) Standard Oil of Louisiana Baton Rouge, Louisiana	Employees Coop.	Joint	Service	g, s, h, n	Group	11,500	Yes
(15) Tennessee Coal & Iron Birmingham, Alabama	Company	Joint	Service	g, s, h	Group	20,000 & depend.	Yes
(16) Transport Workers' Union New York, New York	Union	Union	Service	g, s	Panel	30,000	No
(17) Union Oil Company Los Angeles, California	EMBA	Joint	Service	g, s, h, d	Free Choice	7,700	No

## GLOSSARY

## Auspices and Financing

EMBA—Employees Mutual Benefit Assn. or similar organization

Employees Coop.—Cooperative organization organized by employees, independent (but generally with the support) of management

Group Clinic—Medical co-partnership operating as a group serving the community

Joint Companies—several companies acting together

Joint—contributions to the support of the plan by both employees and management

## Scope of Benefits

g—general services for non-industrial illness

s—special services " " "

h—hospitalization " " "

n—nursing

d—dentistry

m—medicines and appliances

## Method of Providing Service

Group—group of full time physicians practicing in common offices

Panel—limited selection of physicians practicing in their own offices

Free choice—Service by any licensed physician in the community.

pared with the plan of the East Ohio Gas Company; that is, benefits are provided for hospitalization in cases of catastrophic illness. Hospital service plans alone cannot therefore attain the threefold objectives of a proper program.

Service benefits have one great advantage over cash benefits. They permit selection and organization of

professional personnel and facilities to meet particular needs and problems. Cash benefits do not.

## How Shall Benefits be Provided?

In determining the method by which service benefits are to be provided, questions of policy arise as certain

of the alternative methods available, in particular situations, impose varying degrees of compulsion. The extent depends upon the degree to which the selected method requires changes in the medical habits of the employees. Management must weigh in the balance the extent to which the employees' medical habits are disrupted and the advantages of the particular method otherwise indicated as the solution to the planning problem. This question may be minimized by employee development of the plan or participation in it. Management may also find that a medical service program will be proposed by a labor union. As labor has a stake in health as heavy as that of management their mutual interests in attaining the objectives of a medical service program will answer many questions of policy and will open a new field of collaborative effort.

There has been considerable discussion among the advocates of the different methods available—free choice, panel, group practice. Management has used all methods. In almost all cases such controversy as has arisen over the method selected has quieted. In one case in particular a physician on the staff of an industrial group was later elected president of the county medical society.

For years, it has been accepted dogma that the relations between the employee and his family physician should not be interfered with where adequate medical resources exist. In recent years however the situation has changed in two respects, warranting independent consideration of this question by each company. First, recent surveys have revealed that comparatively few families, particularly in urban centers, have family physicians and that the majority of the people do not make an intelligent selection of medical resources. Conversely, experience has shown that such relations can be developed in organized medical service plans. Second, the advance of medical science has made it impossible for any one physician to familiarize himself with all there is to know about medicine. Specialization is essential and co-ordination of work among physicians is necessary to the maintenance of the highest standards of professional service. Desirable co-ordination may be best attained and efficiency of service achieved when physicians practice as a group or full time staff. This method is illustrated in industry by the plans of the American Cast Iron Pipe Company, Endicott Johnson Corporation, Northern Pacific Railway, Roanoke Rapids Community Service, and many others. (See the Chart.) Such groups now are a recognized and accepted form of medical practice as is specifically

pointed out in the 1941 report of the Bureau of Medical Economics of the American Medical Association to the House of Delegates of the Association.

#### How Shall the Plan be Organized?

Should the plan operate as a department of the company, should the company participate jointly with the employees or should the company support independent action either by the employees through a labor union or otherwise, or by the community? No categorical answer can be given to these questions. Decision must rest upon the circumstances in each case and upon the industrial and community relations policy of each company. Experience has indicated that employee participation, and responsibility commensurate with their contribution toward the support of the plan, is essential to its success. Employees will have a keen awareness of the problems encountered in the operation of the plan and participation in its management will result in more efficient utilization and administration besides affording an outlet for latent qualities of leadership.

#### The Best Way

It is thus apparent that in developing a medical service program there are many factors to be considered. Management must analyze or have analyzed its own particular needs. From the findings, a program can be developed which will represent the best way in which the particular problems can be met. There is the knowledge and experience to proceed soundly and practically. We know that the results of proper health planning, of finding the best way in each case, are significant whether viewed in the light of employee welfare or in economic returns to management. For example, one of the division supervisors of the Los Angeles Department of Water and Power recently wrote to a Los Angeles industrialist: "In public personnel administration, we are of course interested in the health of our personnel. We have found, by checking our time roll and retirement records, that since the institution of this health protection plan (Ross-Loos Medical Group, a plan similar in structure to the Milwaukee Medical Center) the time lost due to sickness has dropped more than 25 per cent which in turn means a definite saving to the taxpayer and the consumers of our public utility."

Thus the development of a medical service program is a field of mutual interest in which the future progress holds high hopes for management, the wage earner and the country as a whole.

# What Do the Bosses Think?

*Their Opinions About the Company and Their Fellow Executives Often Determine the Profit Curve—Case History of a Successful Attitude Study*

By PAUL T. CHERINGTON and HAROLD B. BERGEN

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**W**HAT do the bosses think about each other and about the organization which they are serving?

Is it possible to measure what an administrative staff thinks about its fellow members—about salaries, promotions and company policies? Can this be done in such a manner that the results will be of value to the concern?

Many companies have undertaken successfully to get the answer to these questions. Their first step was to analyze in their own case, as simply and clearly as possible, the definite tasks which any administrative organization is under obligation to carry on concurrently. These may be listed as follows:

1. The organization, in the first place, has the obligation to serve as a producing mechanism, carrying out the operations for which it exists.

2. This necessarily is accomplished through individuals and in such a way that a proper balance is maintained between individual initiative and "team work." The personal stimuli and the group restraints both should be operative, and "in balance."

3. The misunderstandings and frictions inherent in joint action between alert and ambitious individuals need to be consciously minimized. This is again a matter of balance between these two antithetical interests.

4. The enthusiasm and verve of the individuals call for conservation and control. Keep it alive, but within the group picture.

5. Provision for preservation and restoration of the group itself cannot be taken for granted; it is part of the function of the organization to provide for its effective and constant renewal. An administrative organization should aim at group persistence in the face of human mortality.

When these objectives are clearly stated it becomes apparent that the attitudes of the individuals in an administrative group toward that group, and toward the business of which it is a part, are enormously important, even though they may necessarily be complex. Moreover, it is evident that these attitudes cannot safely be left to the operations of chance. They call for skill-

ful formulation and constant and deliberate cultivation if all the functions of the group are to be performed satisfactorily.

How such studies are made may perhaps best be explained by means of a concrete illustration.

## Method of Procedure

A large manufacturing company, which was planning to have a study made of what its employees and their supervisors were thinking, decided as a preliminary step to have a study made of the attitudes of its fifty-one senior executives. Accordingly an executive attitude questionnaire was constructed and administered to these men as a group, and the results tabulated in an independent office outside of the concern's own operations.

The questionnaire was designed to bring out specific attitudes toward the various points of relationships with superiors and associates, the plan of organization and the effectiveness with which its various units had been co-ordinated, the impartiality of executive compensation, the fairness with which junior executives had been selected for promotion, the effectiveness of executive training, union relations and the like. In addition, the questionnaire was constructed to measure the general morale of executives and their "total" attitude toward their jobs and the company.

In administering the questionnaire, precautions were taken to convince the group that the identity of any individual respondent could not possibly be discovered. After explaining the purpose and method of the study, the chief executive withdrew from the room. No executive was required to write anything on the questionnaire, but only to check the statements with which he agreed.

## Results of the Study

The most significant results of this study may be summarized as follows:

- I. The most unfavorable specific attitude of the group was toward the equitableness of executive compensation. Over 50 per cent felt that the salaries for

their respective positions were lower than the salaries for equally important positions in the company. On the other hand, only one-quarter of the group thought that minimum and maximum salaries should be established for each executive position by means of job evaluation. This latter attitude, however, may reflect lack of experience with systematic salary administration.

II. Dissatisfaction with executive promotion practices was also evident. Less than one-third felt that the best man almost always received promotion when a higher job was filled.

III. The need for a clear-cut plan of organization and for more effective co-ordination of the various executives was strongly indicated. There was a lack of clear understanding of the respondent's own duties, responsibilities and authorities and of those of other executives. For example, only one-half of the group felt that certain specialized departments such as personnel, industrial engineering and the laboratory helped them in discharging their responsibilities. A somewhat better attitude, however, was indicated toward the engineering and controller's departments. On the other hand, it was more disturbing to learn that only one-half of the group felt they were really a part of the management of the company.

IV. A desire for more intensive executive training and development was evident. A wide variety of information not now received was requested, including the plans and long-range program of the company, general business conditions, new developments in the industry, and new developments in labor relations.

V. The results indicated a high degree of satisfaction with the personal leadership of immediate superiors. A vast majority of the executives felt that their immediate chiefs were sincerely interested in their development and progress.

VI. Although the company had had contractual relations with a CIO union for over one year, 80 per cent of the group indicated that their opinion of the union had not changed, 14 per cent had a less favorable opinion, and 6 per cent were more favorably disposed.

VII. There was a strong feeling that merit should count more than it had in lay-offs and re-employment of the workers and that length of service had counted too much in the past.

VIII. The executives were asked to rank ten selected personnel practices in the order of their relative importance, and the composite rank assigned these ten items was as follows:

1. Fair pay
2. Clear-cut definition of duties, responsibilities and authorities
3. Promotion on merit
4. Credit for work accomplished
5. Job security
6. Understanding leadership by superiors
7. Adequate job instruction and related information
8. Prompt and fair adjustment of grievances
9. Fair lay-off procedures
10. Adequate retirement benefits

IX. The general morale of the group was good. The "morale score" of each executive was computed by means of a special statistical technique, and all scores transposed to a scale of from 0 to 100. The average morale of the group was 77, the lowest score of any individual executive was 55, and the highest was 97. Such favorable attitudes are to be expected among an executive group, but they appear to be unusually so in this company.

#### Putting the Results to Work

The company is utilizing the results of this study in the planning of an executive training program. Through the medium of consultation and conference, definite statements of policy will be formulated by the group, a definite plan of organization will be developed, an organization manual will be prepared, and more specific procedures for carrying out each of these policies developed. At a later date, it is planned to administer a similar questionnaire to the foremen and supervisors and another to the rank and file. It is believed that by this procedure any friction points or causes of dissatisfaction in the various departments and levels of the organization will be brought to light, and that a long-range program of improving employee relations can be developed on the basis of facts rather than mere opinion.

#### Conclusion

This illustration, perhaps—gives some idea of how this approach to a serious administrative problem may be made. There is no magic about it, but there is need for infinite patience and care, as well as for skill in preserving confidence and in avoiding the stirring up of antagonisms which may upset the whole procedure. Perhaps the best reason for believing that such attitude studies can be made successfully is the fact that it has been done repeatedly.

# Protective Labor Legislation—Boon or Bane in a Defense Economy?<sup>1</sup>

## The Government's Role in Collective Bargaining<sup>2</sup>

By OTTO S. BEYER

Member, National Mediation Board

LET me first say a word or two about what collective bargaining means. The term is a fairly loose one and means different things to different people. So before I can intelligently discuss the government's function in relation to collective bargaining, it is imperative that I indicate what constitutes the real essentials of collective bargaining.

Briefly, they are: association of workers into free and independent organizations for the purpose of designating authorized spokesmen; joint negotiations between such spokesmen or representatives and the representatives of industry to consider and determine upon wages, hours and working conditions; the reduction of such terms to written agreements; the provision of administrative setups by both employers and employees to assure the observance or application of such agreements; and finally, the establishment of agencies or tribunals to which differences or disputes over the meaning or application of the terms of such written agreements may be referred for final settlement if the parties themselves are unable to agree upon such settlements. When all of these objectives are realized, you have the essence of collective bargaining.

Other than in the case of the steam transportation industry and isolated emergencies, the government has never taken a formal hand in furthering and promoting collective bargaining as described above as a matter of national policy until 1933 when the National Industrial Recovery Act became law and the NRA was established. So first, let me hastily sketch the government's role in collective bargaining up to 1933.

Some fifty years ago the federal government through

appropriate legislation began to use its good offices to insure satisfactory railroad labor relations. That was in 1888, long before railroad labor organizations had reached the status they now enjoy and long before there were any laws protecting the right of workers—railroad or otherwise—to organize. Nor were there any federal agencies at the time prepared to hold elections and determine the kind of labor organization employees desired to have represent them.

From that time onward the federal government has never relaxed its interest in railroad labor relations. The Erdman Act of 1898, which succeeded the original Act of 1888, attempted to correct the deficiencies evident in the first law and for the first time in our history established boards of mediation and conciliation for the settlement of railroad labor disputes under government auspices with resort to voluntary arbitration as a second safeguard to avoid strikes. The Newlands Act of 1913 continued the policy of federal mediation. It provided a permanent board for mediation purposes and further improved procedures for voluntary arbitration.

During the period of federal control of railroads from 1917 to 1920 the right of railroad employees to join or to refrain from joining labor unions was officially recognized for the first time. The Transportation Act of 1920 restored the railroads to private management and, by Title III, imposed the solemn duty of making and maintaining labor agreements upon them and their employees. Further, in the event of disputes over the terms of these agreements, Title III provided for fact-finding by federal authority and publicity as the method for maintaining peace. But mediation by federal authority was definitely not a part of this procedure.

With the passage of the Railway Labor Act of 1926 mediation was re-established as the basic method of government intervention in railroad labor disputes and its application extended to all branches of railroad em-

<sup>1</sup> The two articles and the discussion in this section are adapted by the authors from their talks given at the concluding session of the Annual Conference of The Society for the Advancement of Management, New York, December 6, 1940. We regret that we have not been able to secure the paper of Mr. V. A. Zimmer, "Labor Standards and Regulation—an Appraisal." Other papers from the Annual Conference were presented in the January-March, 1941, issue.

<sup>2</sup> Revised by the author, May, 1941, to bring it up to date for the current issue of *ADVANCED MANAGEMENT*.

ployment. By the terms of the Act of 1926 voluntary arbitration could be resorted to as a next step after mediation, but in the event both failed, and interruptions to service threatened, fact-finding by specially constituted boards and publicity became available as the device of last resort to avoid strikes. The duty first imposed by the Transportation Act of 1920 to make and maintain labor agreements was emphasized as the basic objective of the new Railway Labor Act of 1926. Finally, in 1934, the Railway Labor Act of 1926 was amended to safeguard the employee's right to organize by providing methods for determining, under federal auspices, the choice of employees as regards labor representation. It also provided an agency of final authority, the National Railroad Adjustment Board, to settle disputes growing out of individual grievances or the interpretation of the terms of an agreement.

As reliance upon federal mediation for allaying railroad labor disputes grew, as it became more effective, and as its availability was extended to all branches of the industry, labor relations on the railroads tended definitely toward stabilization. Interestingly enough, in the brief period from 1920 to 1926 during the life of Title III of the Transportation Act when no federal mediation service was available to the railroads and their employees an epidemic of strike threats and strikes developed on the railroads. The nation-wide shopmen's strike of 1922 occurred during this period.

Emphasis in the 1926 law on the making and maintaining of labor agreements tended further to stabilize railroad labor relations. And finally since 1934, when this emphasis was supplemented by specific legal provisions safeguarding the right of railroad employees to organize and select representatives for collective bargaining purposes, labor relations on the railroads have achieved a degree of stability which leaves comparatively little to be desired. And that is how things stand today.

As I have already indicated, it was not until 1933 when the NRA was created that clear concepts began to develop with respect to the federal government's relationship to collective bargaining in industries other than steam transportation. Under the NRA, you will remember, the organization of both employers and employees for joint action was visualized. In this connection, I make special reference to the famous Section 7 (a) of the National Industrial Recovery Act.

You will also remember that a labor board was set up, of which Senator Wagner was chairman, which attempted, by various methods, to control the orderly

development of employer-employee relationships in industry consonant with the purpose of the National Industrial Recovery Act. However, this approach to the labor relations problems of the time did not prove satisfactory, with the result that in June, 1934, Congress enacted Public Resolution No. 44 "to effectuate further the policy of the National Industrial Recovery Act." Among other things, this resolution established an independent board analogous to the present National Labor Relations Board for purposes of controlling the development of collective bargaining in industry other than steam transportation. However, it too proved unsatisfactory, and furthermore, it was regarded at the time as a sort of interim step pending more thorough consideration by Congress of proposed methods to enable the government to exercise a more effective influence in labor relations. Hearings were subsequently conducted by committees of Congress centering around a bill introduced by Senator Wagner, the results of which finally emerged on July 5, 1935, as the National Labor Relations Act. In addition to establishing the National Labor Relations Board, the intent of this law was to promote collective bargaining in industry primarily by safeguarding freedom of association among employees and the designation of representatives on their part equipped to confer and to make labor agreements with employers. Basically, the approach of the National Labor Relations Act to the accomplishment of this purpose, as you no doubt know, is to make illegal certain practices that employers have in the past indulged in so as to forestall the exercise of the right of employees to organize. In other words, the Act recognizes the right of employees to organize as a property right and seeks to protect it. In addition, the Act also empowers the National Labor Relations Board to resolve disputes among employees as to who may represent them, but beyond this the Act does not go. The theory of the Act simply is that by protecting the right to organize and by resolving disputes over representation, the process of collective bargaining is furthered.

In passing, I should call your attention very briefly to the fact that although there has been more agitation concerning the administration of the National Labor Relations Act than there has been about the Railway Labor Act and its administration, the former act does not go anywhere near as far as does the Railway Labor Act in protecting the right of employees to organize in order that they may uphold their end of the collective bargaining process. The National Labor Relations Act stops merely with protecting the right of employees to

organize and the provisions of a method for resolving representation disputes among employes, whereas under the Railway Labor Act all the other steps and purposes essential to collective bargaining are subject in one form or another to federal protection, intervention or promotion so that the objectives of collective bargaining may be achieved in an orderly, peaceful manner.

As further instances of the federal government's role in the development of collective bargaining, I pause to call your attention to the extension of the provisions of the Railway Labor Act to the air transport industry in 1935. That is to say, Congress has provided that the airlines of the United States and their employes shall be guided in their labor relations by the policies and methods which have been developed by the federal government for the railroads and their employes.

The other instance is the provision by Congress of a policy somewhat similar to the Railway Labor Act which it enacted as Title X of the Merchant Marine Act. This section of the Merchant Marine Act contemplates, as in the case of the Railway Labor Act, that the American steamship companies and their employes shall make and maintain labor agreements just as in the case of the railroads and the airlines and their employes, and shall utilize the mediatory services of the federal government in the form of the Maritime Labor Board if they cannot compose their differences across the conference table. In addition, the section of the Merchant Marine Act in question provides for adjustment machinery to settle disputes growing out of the interpretation or application of duly negotiated labor agreements. The record to date indicates that the enactment of this measure, simply because it has laid down a well-rounded federal collective bargaining policy, has had a substantial effect in stabilizing maritime labor relations. The same may be said of the labor relations picture in commercial air transport. The fact that it has developed against the background of a well-defined federal labor policy has contributed much to its orderly, constructive growth. Strikes are not necessary under such auspices.

I pause for just a moment to epitomize the government's role in collective bargaining as far as its vital transport industries are concerned. What you really have under the Railway Labor Act and Title X of the Merchant Marine Act is a code of good labor manners, promulgated after much experimentation, by Congress for the benefit of the railroads, airlines and steamship companies, their employes and the public, with the federal government standing by as a friend and counselor

in the form of the expert national mediation boards to guide the parties directly concerned in the observance of this code of good labor manners.

I would be derelict in my resume of the government's role in collective bargaining were I not to make reference to the Conciliation Service of the United States Department of Labor. This agency was established by the first Secretary of Labor when the Department was organized, in conformity with the general mandate laid down by Congress in the act creating it. The Conciliation Service does not function in keeping with a well-defined policy for the promotion of collective bargaining as a means for establishing the labor standards of industry such as underlies the Railway Labor Act or Title X of the Merchant Marine Act. The Conciliation Service of the Department of Labor simply stands by to be of whatever help it can if and when a labor emergency of one kind or another arises. As a result—and this is no reflection on the Conciliation Service—it has functioned more as a strike settling agency than as a strike avoiding agency. The difference between the Conciliation Service and the National Mediation Board is as between a doctor interested only in the curing of illnesses and one interested in the prevention of illnesses.

Since this subject of the government's role in collective bargaining was discussed last December, the exigencies of the national emergency have made it seem imperative to the authorities in Washington to take another step in the direction of government intervention in labor relations. I have reference to the creation of the National Defense Mediation Board and the promulgation of the Executive Order on which it is based. This step further emphasizes the importance of the government in collective bargaining and is a clear indication of the fact that the government's role in collective bargaining is still in the process of active development. In other words, as made imperative by the defense production needs of the country, the government's role in collective bargaining appears to be in for further expansion.

One other aspect of the government's role in collective bargaining deserves mentioning. That is the fact-finding function of the federal government. The solution of labor difficulties tends to respond much more successfully and quickly when reliable facts are utilized than when the settlement of these difficulties is left to prejudices and arguments and to arbitrations resulting from threats, boycotts, stoppages, strikes, and the like. I wish particularly to commend the fact-finding activi-

ties of the federal government, primarily in the last seven or eight years. I deem these activities to be extremely valuable and should by all means be encouraged as an essential feature of the government's role in collective bargaining.

Let me summarize the present status of our federal labor policy. As I see it, we have a fairly well-rounded federal collective bargaining policy with respect to the several branches of the transportation industry—steam, air and marine. The situation is not so well-defined or well-rounded with respect to the other industries, as essential as they are both to the national welfare and, under present conditions, to the national defense. Our national labor policy, as set forth in the National Labor Relations Act, seeks in the interest of collective bargaining, to protect the right to organize and to facilitate the process of designating labor representatives for collective bargaining purposes. The Conciliation Service of the United States Department of Labor and now the National Defense Mediation Board are standing by in

the event labor difficulties develop to appease the situations. However, no code of good labor manners analogous to that which has been superimposed by federal mandate upon the transportation industry is available for guidance and ready reference as far as other industries are concerned. In my opinion, were a clear-cut, forceful declaration in the nature of a labor policy emphasizing the need for making and maintaining written labor agreements by the joint conference method forthcoming from Congress and were, in addition thereto, an agency or agencies established by law analogous to the mediation services functioning in the rail, air and marine transportation industries, this country would be taking out much-needed additional insurance against the occurrence of labor troubles and strikes of one kind or another and would, in addition, be promoting the orderly, constructive development of collective bargaining so essential to the effective realization of democracy in practice.

## Labor Regulation as Industrialists See It

By EDWARD S. COWDRICK

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**B**EGINNING at least as far back as the Erdman Act of 1898, the federal government has exercised a constantly increasing degree of regulation over relations between employers and employees. This process has been accelerated in recent years until now we have the Norris-LaGuardia Anti-Injunction Act (1932), The Railway Labor Act (1934), the National Labor Relations Act (1935), the Walsh-Healey Act (1936), and the wage-hour act (1938). These laws are in addition to those relating to social security, which are not included in the present discussion.

Whether all this labor legislation was wise or unwise in its purposes and its methods is now an academic question. The laws are here and we can't go back to where we were before they were passed. The thing to do is to look at the practical effects of the laws, and if any of these effects are bad, to devise remedies. Need for this is urgent, particularly on account of the national defense program. America must do in a shorter time and by democratic processes what Hitler did in seven years by scrapping all individual rights and turning the entire energy of Germany into military channels.

None would deny that New Deal labor legislation has helped to correct some abuses in employer-employee relationships, but it is fair to ask whether these benefits have not been outweighed by practical disadvantages—whether the government has not got rid of a few rats by burning the barn. Among the things which the labor policies of the Roosevelt administration have done, or to which they have contributed, the following are noteworthy:

1. Co-operation and confidence between employees and management have been discouraged.
2. Direct labor costs have been increased and this has added to unemployment and made more serious the plight of the marginal workers.
3. By artificial restrictions, the government has limited the authority of management, made labor conditions inflexible and hampered production. On the industrial front we are trying to lick Hitler with one hand tied behind us.

Turning first to the subject of wage-hour legislation, we find that the government has enacted two laws which

in some respects are mutually inconsistent. The Public Contracts Act of 1936 (Walsh-Healey law) applies to some employers manufacturing goods for the government. The Fair Labor Standards Act of 1938 (wage-hour law) applies to all establishments engaged in interstate commerce. Many employers are subject to both these laws and often they find it difficult to reconcile conflicting provisions and determine just what are the requirements to which they must conform. Since the wage-hour act presumably represents the mature judgment of Congress, it seems that the sensible thing to do would be to repeal the Walsh-Healey act and to rely on one statute to do whatever regulation of wages and hours the government considers proper. The wage-hour act then might properly be amended in at least these particulars:

1. The maximum working time permissible without punitive time-and-a-half pay should be increased to forty-eight hours. This would give a much needed flexibility in working time and help to avoid inflationary increases in manufacturing costs.

2. Automatic increases in minimum wage rates should be halted. Nobody knows what wage levels will be desirable or practicable in future years, and it is futile to attempt to determine these levels in advance.

3. Industry committees and industry wage orders should be eliminated. Since the general provisions of the law set minima that presumably are sufficient to end sweatshop conditions, establishment of higher rates for an entire industry brings discrimination against the less prosperous sections of the country and threatens to squeeze out both marginal workers and marginal employers.

4. All supervisory employees and all salaried employees earning more than some fixed sum should be removed from coverage of the law.

5. Regulations for employee training should be liberalized so as to encourage this important function of management.

The National Labor Relations Act was passed on the theory that it was a proper function of government to protect the right of self-organization and collective bargaining by workers. As the law has been interpreted, it has meant that in many cases the National Labor Relations Board has served practically as a recruiting agency for unions. We are not now discussing the rightness or wrongness of the principles underlying the National Labor Relations Act. I have some positive opinions on the subject which I have not hesitated to express freely on other occasions. Just now what we

are trying to do is to find ways to correct some of the most objectionable results of the law.

1. The act prohibits coercion of employees by employers in matters of organization and collective bargaining, and this has been interpreted to include the mildest and most nearly invisible forms of support or interference. Coercion by unions is unrestricted. This one-sidedness should be corrected. Employees should be free to organize and bargain collectively without coercion from anyone.

2. The right of self-organization should not be extended to supervisors or to any other employees who properly may be considered a part of management. Management should be protected against divided loyalty within its own family.

3. The right of free speech should be guaranteed. An employer should be permitted to express opinions even in regard to unionism, if his expressions are not accompanied by threats or intimidation.

4. Craft unions and independent unions should be protected wherever they are the free choice of employees, unless they are under continuing domination of the employer.

5. An employer should not be required to recognize unions that are under subversive or anti-American leadership.

6. Perhaps it may be found necessary to provide some machinery for delaying or discouraging strikes in vital defense industries, but this is a policy that should be approached with great caution.

(Since the meeting at which this address was delivered, the government has moved in the direction of strike prevention particularly through the efforts of the National Defense Mediation Board.)

7. Collective bargaining units should be limited to the employees of a single plant, unless some larger unit is selected with the consent of all parties concerned.

8. An employer should not be permitted to discharge a worker simply because of union membership, but the law should not protect the jobs of insubordinate employees or of saboteurs and fifth columnists.

The points that have been presented by no means include all the changes in the law that would be desirable. The purpose has been to suggest the absolute minimum requirements for correcting some of the worst faults of the National Labor Relations Act and some of the most glaring abuses growing out of its administration.

In the whole field of labor regulation, the need is less for a change in specific laws than for a change in the

attitude of the government toward private industry. For almost eight years the administration has used business as a sparring partner. Every time the victim has tried to get up it has been knocked down again. Now, in the face of an emergency, the government is asking industry to get up once more, wipe the blood from its face, dust off its clothes, and get to work on the gigantic job

of national defense. Of course this plea will succeed. Business, as always, is ready to take its place in the front ranks in any great national effort. But the desired results would be attained more quickly and easily if the government at long last would cease its assaults upon business and admit it to a full partnership in the job of preparing to defend the nation.

## Discussion

By MARSHALL E. DIMOCK

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I AM glad that Otto Beyer said what he did about the importance of the human factor in management. A few years ago when I was making a study of bureaucracy in large corporations, several prominent business men who had once been active in the affairs of the Taylor Society told me that they had virtually dropped out of The Society for the Advancement of Management because it had dealt too largely, in their opinion, with formal factors of organization, and gave all too little attention to questions of worker morale and psychology. "These are the important questions of today and of the future," they kept saying.

I am sure that no such criticism can properly be brought against this organization today. This afternoon's session is simply additional evidence of an interest in this field which the Society has manifested for a considerable period of time.

No greater responsibility devolves upon those of us who attempt to study management scientifically than this one—the responsibility of attempting to understand, reconcile and explain the competing interests of owners and workers. In this economy of ours we managers are the middlemen. We know better than anyone else the problems and aims of the worker and the investor. We have a big educational job to do. An organization such as this, therefore, occupies a peculiarly important place in our public life.

This problem of analysis is particularly important during a time of national emergency or war. Recently I have been reading the history of industrial relations during the 1914-1919 period, and have discovered what many of you already know; namely, that in times of crisis the owners of industry are inclined to take advantage of patriotic fervor to drive organized labor into line, while at the same time organized labor is keenly aware that the nation's war effort is dependent upon their whole-hearted co-operation. Hence a stalemate

is likely to develop—a stalemate in which owners are vociferous and laborers are sullen. This situation existed in Great Britain for almost a year after war was declared in September 1939, and it was not until labor was given representation in the councils of state and its psychology and viewpoints were taken into account that the nation began to pull together as a team. Let us see to it that such a stalemate does not occur in this country. The avoidance of such an impasse is the responsibility of management people such as ourselves.

There have been some sharp differences of viewpoint expressed here today, but I think that they can be composed by analyzing and emphasizing some underlying considerations. I used to think that writers on management gave altogether too much emphasis to the necessity of unified direction and control. I skeptically thought that this emphasis was attributable to the "big man" myth. With greater opportunity to observe and with some administrative experience of my own behind me, I have come to the conclusion that emphasis upon unified direction and control is hard to overdo. Outstanding executive ability requires outstanding temperamental traits. A great executive is a great artist—and I am not becoming poetical. What do I mean by executive traits? I mean ability to foresee social developments and industrial changes in advance, in order that the enterprise may plan and accommodate itself. That person has executive ability who can keep a hundred different things going forward at the same time and all of them at the same rate to form a unified program. This is a rare kind of skill because it means that the executive cannot indulge in the luxury of becoming absorbed in any one of the countless aspects of a problem. He must be able to delegate everything that he does not have the time and energy to do himself in order that he may concentrate upon his undelegatable functions; namely, direction and co-ordination. Having once delegated the

particular task, however, he must keep it constantly in mind and see that the results he seeks are in the process of being achieved. He is a person who is close to his employees, a person for whom a genuine affection develops. This feeling of comradeship is due to the understanding of human nature which the executive develops and his appreciation of the common qualities of ordinary people. The executive must be a judicious person, treating all employees fairly, none of them arbitrarily or capriciously, or otherwise he will soon lose their confidence and respect. Now if you will analyze these characteristics, you will find that all of them are temperamental. It is therefore not imaginative or sentimental to say that the great executive is an outstanding artist. From this I deduce the fact that men of outstanding executive ability will deeply resent and revolt against unnecessary interferences from without. How many executives do you know who have said, "I had rather have no business at all than to have one that is constantly regulated and interfered with by the government." I am convinced that in most cases such statements are not made for propaganda purposes but that they really represent deep-seated psychological needs of the persons making the assertions.

Most of you will probably agree with this analysis. We have been rather slow to appreciate, however, that just as executives have psychological needs, so also do those who are less fortunately situated. Clinton Golden made this abundantly clear in the paper he gave last night.<sup>3</sup> If we assume, as I think we must, that executives need opportunity for self-expression, why have we been so slow to realize that men and women all the way down the hierarchical line—men and women who receive only a few dollars a week—also need more opportunity for self-expression? They get a feeling of security and of status from belonging to their own employe organizations. They get a feeling of self-esteem and purposefulness from being given the opportunity to make contributions to the success of the enterprise with which they are identified. We as a Society have not done nearly as much as we should to analyze the constructive ways in which employees can contribute to the success of planning and industrial relations in management without detracting from the unity of direction and control which we recognize as indispensable. It is not a matter of either/or; we must find practical ways and means of showing that it is both/and.

<sup>3</sup> Golden, Clinton S., "What Labor Wants from Management," *ADVANCED MANAGEMENT*, January-March, 1941, Volume VI, No. 1.

I am glad to see that business men are thinking increasingly in terms of public relations because they very soon come to learn that the only satisfactory foundation for public relations is good employe morale. "Morale" used to be a very unpopular term, strangely enough, because somehow or other business men got the idea that hard-boiled and hard-headed people didn't think in such terms. Most of us now realize that this was a very childish and shortsighted view. When we talk about the good will of a corporation, which is far more nebulous than employe good will, we do not accuse ourselves of being sentimental and soft-hearted, do we? No, good will is so much of an asset that it is even sometimes included in good accounting practice. Similarly, we need to get wise to ourselves in thinking about the morale of employees, because this is just as hard-headed a consideration as the good will of consumers.

Studies such as those which Otto Beyer has made over a period of years and which other members of this group have distinguished themselves by undertaking constitute social contributions of the greatest importance. For as John D. Rockefeller, Jr., has said, control of the future is in the hands of those who know how to deal with human beings as employees, not with those who control dollar deposits. The management viewpoint should be brought to bear upon any and all social legislation in order to make sure that the two social values we have been discussing are both safeguarded and coalesced. The two social values? Yes, the social value of unified direction and control, which gives managerial talent its best opportunity, and the release and encouragement of employees' constructive and co-operative characteristics in order to give them an opportunity to develop and to create an organization which has life and vitality. These human factors are elusive, but let no one think that they are impractical.

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# One View of Labor's Participation in Time and Motion Study<sup>1</sup>

By PHIL CARROLL, JR.  
Management Consultant, New York

"The condition providing that time allowances shall be fixed to allow an average man to earn time and one third resulted in establishing that figure as the limit of earnings under any system. Trade unions insist on their members keeping within that limit, those found to be 'over-booking' are fined, and are liable to expulsion from the union for the offence.

"Even where the principals disavow all knowledge of rate cutting, rate fixers, foremen and managers consider it their duty to reduce rates because, in their opinion, the man is earning 'too much.' Why any amount, properly earned, should be considered 'too much,' either by men or management, passes one's comprehension."—W. F. Watson<sup>2</sup>

IN MR. WATSON'S instructive little book he described conditions in England but what he said applies without modification to many of our own industries. In his findings, we have one score against management, and one against unions—management cut the rates, and unions restricted production. Restricting production will not correct faulty management and rate setting methods, nor will it help England win this war.

Laying down on the job, restricting production and other ill-advised practices will not solve the problem. Look what happens when industries create a monopoly. If Uncle Sam does not catch them, some ingenious group finds a way to make a better product and leaves the monopoly high and dry without a market. The same thing happens with the unions that set up restrictions in production. People find a way to get along better without the help of those unions, not because of ulterior motives, but simply because nothing can stop progress.

The reasons for laying down on the job during a time study are easy to understand. At least two are defense mechanisms. The first law of human nature is self-preservation. But a second reason has more to do with our subject. Its source lies in the pseudo time study practices that have been used too frequently in many plants.

Some of these practices may again be the acts of self-preservation. On the other hand, they may be the outgrowth of that human tendency of trying to get something for nothing—the result of some management's trying to gain the benefits of wage incentive without going through the necessary formality of good time study procedure.

Managements that permit the use of guessing, estimating, temporary standards, past performances and other amateurish schemes to escape the tedious and exacting methods of good time study practice are doing more harm than good in their particular plants. They are setting up an incentive structure that is sure to open the way for rate cutting.

Without regard to which came first, the hen or the egg, there are certain causes we should understand if this discussion is to be of constructive value.

## Maintenance, the Important Issue

Why would labor want to participate in time and motion study except to insure that the work was done correctly from two viewpoints?

1. Labor would want to make sure that the principles applied were equitably sound, as evidenced by fair incentive standards, and more particularly
2. Labor would want to make sure that equitableness of measurement was maintained.

The responsibilities that go with a program of time and motion study are much the same as with anything else. A company may begin correctly by adopting sound and equitable principles. These may be introduced and completely sold by intelligently trained time and motion study men. A reputable consultant may assist and guide the introduction of the program. But all of these endeavors will only contribute to the right beginning.

However, a wage incentive plan will not run by itself. Unless the right principles are maintained, all of these correct beginnings will be lost in dilapidation, and then, must be made all over again. Between these two stages,

<sup>1</sup> Paper presented at a meeting of the New York Chapter of The Society for the Advancement of Management, December 19, 1940.

<sup>2</sup> *The Worker and Wage Incentive*, Hogarth Press, London, 1934.

unfairness and discontent will become steadily worse. Unfortunately, the in-between period, during which most of the difficulties occur, is many times the longer.

It would seem then that *maintenance* of fair principles is the important point in a discussion of labor's participation in time and motion study.

#### Labor Does Participate

How shall we go about solving the problem? The April, 1938, Labor Information Bulletin<sup>3</sup> describes one way to reach a solution, although it does not have universal application.

In this instance, labor did participate in time and motion study. It should be added that the foundation established for the determination of incentive standards is the soundest of all the known methods. It is commonly called standard data.

The article says that "the union hired a number of industrial engineers." That is one way to accomplish the result, but it would seem as though labor's participation was more in the role of management than of worker.

However that may be, not all unions are of an attitude which would induce them to initiate a program as constructive as the one described. Not all managements would subscribe to a policy which permitted a union to determine how wages should be paid. Again it should be emphasized that the solution described does not appear to have universal application.

Labor and management can collaborate to determine a solution in other ways which seem more practical. However, one must agree with the philosophy before the proposal to be made can have a fair measure of success.

In twenty years of industrial experience spread over fifty plants, there has been ample opportunity to associate with a vast number of workers of all types, trades and attitudes. Whether the plant has been an open or closed shop, many of the workers have been members of some union. *There appeared to be no noticeable difference in the attitude of the men toward time study measurement, whether or not they belonged to a union.*

#### More Human Engineering Needed

What, then, is the problem with regard to the introduction of time and motion study? Is it not one of

education? And, why does the problem of education exist? Because it is human nature to oppose a change.

Looked at in a reasonable way, the time and motion study engineer is a research man working full time to change methods of manufacturing. Normally there is no criticism of research work. We all think that research is vital to the continuity of industry and progress.

However, research work in the form of time and motion study is not done in the laboratory. It is done out in the plant where human beings are working. Here is where the human engineering must begin. The things which are done by way of improving methods must be sold to those who are affected. The educational work must be done as completely and as thoroughly under either union or non-union conditions. To obtain the correct results, it cannot be handled any differently when the plant is unionized, except that the labor representatives may be expected to assist in convincing their groups.

Therefore, let us be sure that we understand what a time and motion study man is. He is not a glorified timekeeper who has a smattering of details learned from books or a speechmaker with no knowledge of human engineering.

The successful time study man recognizes that not over 25 per cent of his constructive efforts are directed toward the solution of technical problems. The bulk of his work is given to establishing and maintaining desirable human relations. He works diligently to perfect the shop's understanding of and confidence in his technical solutions. A good time study man fully comprehends the relative importance of these two parts of his work and consciously strives to do the human engineering phase so completely that successful application of the technical solutions will be assured.

At the same time, it must be remembered that employees engaged in time and motion study are subjected to pressures from both sides. They too, have the instincts for self-preservation. Tight standards are sometimes made to offset loose ones. One inconsistency leads to another. Rate cutting may be started. Many an application which was made correctly has had to be replaced because of this vicious cycle. It's a waste of time and money, to say nothing of the effects upon the people involved.

More of an effort must be made to maintain consistency. Perhaps the consultant is more necessary to the *continuation* of correct principles than he is to their *introduction*. If fair and equitable standards were

<sup>3</sup>Gould, Anne, "Fixing Wage Rates in the New York Dress Industry," United States Department of Labor.

maintained, perhaps labor would not be interested in taking an active part in determination.

#### Approving Standards—A Faulty Procedure

Before considering a proposal for labor participation in time and motion study, what are some of the "can't be done's"? In the writer's opinion, it is a grave mistake to think of labor's participation in time and motion study in terms of approving or reviewing standards. It is not practical to view standards with an attitude of take-it-or-leave-it.

Participation on the basis of formal acceptance or rejection after the work is done and the standards set is a costly process which is sure to perpetrate injustices. Sitting around a table arguing whether or not a standard is correct is a silly procedure when only one side has any knowledge of the principles involved. With the best intentions in the world, this form of approving standards is sure to result in unfortunate "horse trading." Marked inconsistencies will be created at the outset.

Because the operator makes more or less than the standard requirement does not prove anything with regard to its fairness. He may *not* be able to make the standard and it may still be entirely fair. On the other hand, he may be able to *overrun* the production requirement and still have a standard which is too tight.

Only men having had considerable time study training in several plants are able to judge whether or not a standard is fair, and then only when they see the performance. No one, foreman, manager, union representative or anyone else, who has not been well trained in rating the performance of the operator can make any worth-while comments about the fairness of a time study standard.

Neither labor nor management should have any quarrel if the standards provide a fair return for the effort or money expended. To be sure, some managements want more than a fair return for the wages paid. On the other hand, experience indicates that many managements are satisfied with much less than a normal production per hour. It would appear, then, that correct "rating" of the time study performance is the foundation of fair measurement.

#### Specifications for Practical Participation

May we then establish the first specification in this way. *For labor to participate in a constructive way, the*

*representation in time and motion study must be by thoroughly trained men actively engaged in the work as members of the standards department.*

Whatever participation there may be will be greatly facilitated if two other conditions are present. These have to do with mechanisms. They are mentioned because of their bearing upon the ease with which the recommended method can be carried on.

The first has to do with the form in which the incentive standard is expressed. Money rates as used in piece work seem to add complications. Difficulties arise because time and money are mixed together to arrive at the piece work rate. When there is a discussion, it has to do with resulting earnings, but the piece rate is blamed. The time required to do the work may be entirely fair and the base rate at fault. When the incentive plan separates the basic wage from the time standard, it is much more satisfactory to determine independently if either is in error.

The same type of problems arise when time or money rates are used in group incentive. Loose and tight standards may be averaged together. Good and poor performances in the same group make the prorated compensations seem unfair.

May we then establish a second specification. *For labor participation in time and motion study to be most satisfactorily conducted, the resulting incentive standards must be expressed in individual time standards.*

The other mechanism has to do with the process of standard setting. One school of thought uses the direct method. Frequently, one time study is used to determine an individual standard. The method has two inherent faults from the standpoint of this discussion. Each standard established by direct time study contains the variations in judgment of the time and motion study man. Variations are to be expected because men cannot exercise individual judgments which are consistent within the limits required for the determination of the workman's earnings. Secondly, each new standard set creates an individual selling problem.

When the same studies, provided they were taken correctly, are compiled to establish basic data, the resulting standards are consistent with each other. Consistency is assured because every time a given element of work is done, the standard for it is selected from recorded standard data. The standards for constant elements are the same throughout the plant and are allowed each time the element is performed. The consistency of the variable elements standards is controlled by means of curves or tables related to dimensional

factors. Variations that can creep into the incentive standards are those caused by clerical errors and misunderstandings of the work requirement. Both types of errors are readily apparent when the compilation is reviewed.

Consider how much more satisfactorily a standard set from data can be explained to the worker, who can intelligently review the elements allowed for in the standard. He may disagree as to whether or not he must use certain motions that have been omitted. However, the correctness of his contention is easily ascertained by those skilled in the trade.

The standard data as a whole is rapidly proved correct by repeated satisfactory performances of individuals on all operations covered by it. From then on, the operators have confidence that any standard set from the data will be consistently fair.

Perhaps here we should establish our third and last specification. *Labor participation in time and motion study will be greatly simplified when recorded standard time data is used for incentive measurement.*

Having established these three specifications, let us discuss a way to use them.

#### Practical Participation

Participation can be made direct by utilizing mechanics as time and motion study men. Using skilled mechanics as time and motion study men is not only practical, it is necessary in many plants. In measuring non-repetitive operations—work involving manufacture to customer specifications with a large percentage of one piece orders—the assistance of skilled mechanics may be required. They are needed to help determine beforehand the procedure to be used in manufacturing the articles on order.

In each case the installation was begun by selecting a number of skilled mechanics for training in time and motion study, who had the ability to sell themselves to others. Many times those mechanics were introduced into time study work in trades other than their own, to give them an outside viewpoint. The first step was to teach these men how to analyze a job in its elements. As a result, they discovered for the first time how much of many factory operations is lost time. Invariably this particular phase of time study has startled the newcomer. Then, they began to practice motion study and time elimination more easily than if they had started out to make a job of it.

Next, they were taught to rate the performance ob-

served in relation to the definition of a fair day's work. Rating must be used to arrive at a fair standard because operators rarely work at a normal speed. A few "lay down" while being timed, but the great majority work at a rate above normal. Correct rating is the keystone in any time study procedure, and labor representatives must be trained to rate correctly before they can be of any real assistance while participating in time and motion study.

Those who have any reservations regarding the importance of rating should read Mr. Ralph Presgrave's<sup>4</sup> two papers on "Effort Rating": one is published in the Fall, 1939, issue of *ADVANCED MANAGEMENT* and the other in the November, 1940, proceedings of the Industrial Management Society of Chicago.

As the mechanics became skilled in time study, their observations were used in compiling standard data. Obviously, they had confidence in the data because they had contributed to its formulation. They knew how to apply it to the work in which they had learned their trades. Their dual training placed them in the enviable position of having the confidences of both labor and management.

However, it is not to be assumed that the solution is as simple as it sounds. What happens when a skilled mechanic-standard setter allows element times for only those motions he would use to do the operation? A training problem is created. Here the time study experience of the mechanics enabled them to help the operator see where he was not working in the best way and to offer some helpful suggestions. Of course, some suggestions resulted in the elimination of work previously included in the standard. Here again the skilled mechanic, having the confidence of the other workers, could easily point out why it was necessary to lower the standard in order to avoid the ultimate of "good and bad jobs."

Naturally, after these good mechanics had been trained in time and motion study, they stood out for their ability to get along with people, and accomplish results. It follows that they were continually being taken from the standards department for more responsible positions in supervisory capacities. The turnover was rather large and the training program almost continuous.

Even so, the losses were offset because men trained in time study can do better jobs as supervisors. They can explain exactly how standards are set. They can

<sup>4</sup> Mr. Presgrave is a member of the SAM's National Committee on Rating.

instruct men in the proper performance of their jobs. Much of today's problem of poor supervision could have been overcome if industry had recognized long ago that it already had in its plants one of the best foreman training schools to be found anywhere in industry. This comment is inserted to indicate how the recommended procedure affords one more constructive line of promotion.

#### Labor Should Assist in Proper Maintenance

The method outlined offers a most satisfactory and practical way to establish and introduce time standards. But, we still must face the real issue of maintaining consistency between work done and "time allowed." Here the responsibility is divided. *Labor that would participate should assume the responsibility for calling attention to those changes in methods which originate with the workers.*

Some experienced time and motion study men will smile and say labor would have to be progressive to initiate changes in standards. And so it would, but labor that is progressive enough to participate in time and motion study should be progressive enough to take on the responsibility that goes with such efforts.

Some workers take a constructive attitude toward the mistakes which develop in incentive standards. They call attention to both the loose ones and the tight ones. Others think that when a standard becomes loose, they should say nothing. They still think in terms of the old 50—50 practice which presupposed that a standard was to be beaten by lessening the work in the job.

Some of the work eliminated was wasted effort and, in this respect, the workers contributed to progress. The workers are sure to develop some better ideas than anyone else because they live with the job. But, when they have failed to call attention to the fact that they were paid for something which they did not do, those workers helped to create unfairness in measurement and earnings.

Most of the changes made by the operator are easy enough to see. But, changes in standards resulting from such discoveries are looked upon as rate cutting because they happen too long after the improvements are introduced. Labor's participation in time and motion study offers one way for overcoming some of the antipathy to standard changes because it can become a party to what is done.

Roethlisberger and Dickson<sup>5</sup> so aptly say about the worker that, "He is always in the position of having to accommodate himself to changes which he does not initiate."

The worker himself does initiate changes in method. He works out better ways for doing the same job with less effort. Some workers are much more ingenious in making improvements than others, and too, some operations can be changed more easily than others. The result is inconsistent earning possibilities. The rates become loose and tight with marked irregularities between them. Here is where labor will have to do a major educational job to show the insidious effects of overlooked method changes if it really wants to participate in time and motion study.

Management can help in this effort also by facing the problem squarely. Continuing an old standard after the method has been changed is *not* the way to reward the worker for his suggestions. Such a course of inaction dodges the issue. What is needed is a suggestion system that works.

Very few plants seem to have productive suggestion systems. One reason why they may not work is this restriction of information on the part of the worker. On the other hand, more of the reason for failure may lie with management for not having seen the value of making suggestion systems function. Some have not taken the time to determine the value of suggestions and then, have added insult to injury by not paying adequate awards for those which have been valuable.

A fair reward should be proportional to net savings effected and should be paid promptly. This responsibility should be assumed by management. Then, when labor assumes its responsibility for initiating the notice of changes in method, it will be doing a real job toward maintaining consistency of standards. It will be participating in time and motion study at the point where a great many earnings discussions really begin.

#### Conclusion

Labor participation in time and motion study can be made entirely practical in at least one way. Skilled mechanics have been carefully selected for their ability to sell themselves and then given a thorough training in time and motion study. Their studies have been incorporated in the resulting standard data.

<sup>5</sup> Roethlisberger, F. J. and Dickson, William J., *Management and the Worker*, Harvard University Press, Cambridge, Massachusetts, 1939.

The fairness of the normal work requirement was established because skilled mechanics assisted in the consolidation of many studies by several observers taken of all the operators working under a wide variety of conditions.

All of the incentive standards were expressed in time, not money. They were set from permanently recorded standard data, and not directly from the time studies. Moreover, standards were almost universally applied on an individual basis.

Direct participation by labor in time and motion study has created more confidence in the results obtained. It has removed much of the misunderstanding before it arose. But, training skilled mechanics to participate in time and motion study, and teaching them to work only with standard data will not permanently solve the fundamental problem. It will not insure the proper maintenance of equitable measurement.

Consistency of earning possibilities can be retained only when a forthright job of maintenance is carried

on. Proper maintenance of incentive standards requires that every change in the amount of work done be followed immediately by a change in the standard. Hiding pieces under the bench and laying down on the job to limit earnings will put off the cutting of rates for a while. Such mechanisms injure everybody. A partial cure for this malpractice can be effected by facing the problem, making the suggestion system work, and paying awards commensurate with the worth of the suggestion.

In contrast to what we see going on every day, the workers could step out and do a real job, were they induced to assume their share of the responsibility for maintaining consistent and equitable measurement. Labor that would participate in time and motion study can do some of its most constructive work toward better maintenance of equitable measurement when it brings the worker to understand why he should notify the standards department of the method changes which he develops.

#### Comment

*(Continued from page 49)*

deep, hidden, untapped resources of productive zeal and loyalty which men and women can offer for defense will never be known until the release of these does in fact come first in some happy combination of favorable circumstances which bring a thrill of communal sense. Only such experience of morale can bring the felt and enjoyed basis for seeking to have more of the same kind of thrill. There is an interesting paradox here which has to be grasped. And the paradox says of "happy sociality"; for example, that a group cannot experience it until it has already experienced it! People cannot enjoy a community sense till they have already happened upon the experience together of a community sense; or have had their behavior channeled into such experience by discerning leaders.

Put in practical terms, you can set the stage for morale-building. The laws are well known. But until groups have once happened upon the satisfactions of morale as total focus of the person, they do not know precisely what the attitude is which they lack and feel

the need of. The need for wholeness, unity of drive and direction, focus of effort—all this is profound in human nature. The deep satisfactions felt in feeling wholeness in common with others who also feel wholeness is hardly to be surpassed in the exalted happiness thus attained.

Do managers try in the factory—and especially in the tensions of the defense drive—to provide conditions of happy sociality, of communal sense, of wholeness and unity of drive in common with others who are like-minded and like-feeling?

If we do not attend to the provision of these total attitudes toward the corporate and the national task, we are working against tremendous odds of psychic resistance and friction. Never yet, in the working of the machine economy, I venture to say, have we shown what we could do toward abundance of output, if we were collectively wise enough to summon people's communal sense into satisfying being.

ORDWAY TEAD.

# Administrative Sequences<sup>1</sup>

By COMSTOCK GLASER

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## Analyzing Administrative Sequences

THE analyst, who is studying the workings of an administrative organization with a view to applying management techniques, may proceed in any of three ways. He may study the organization's functions or basic fields of work, seeing how they relate as parts of the over-all objective and what problems are met in carrying them out and administering them. Or he may survey the units of organization, considering the work load, personnel and equipment of each division and section, and the channels of contact between offices. These methods are extensive—they may or may not lead to more detailed scrutiny.

A third approach is the systematic study of one administrative sequence or series of processes or steps leading to a desired result. Each operation is considered by itself and as it relates to the objective. The analyst's aim is to arrange the successive steps (consolidating or eliminating where desirable) so that the end result is secured with a minimum of time and effort.

## Motion Requirements of Administrative Work

A basic element of scientific management as applied to physical processes is time and motion study. The modern engineer plans machinery and layout so that employes work with a minimum of bodily motion, and so that materials travel the shortest distance from one operation to the next. By analyzing the course followed by a piece of work, unnecessary travel of men and material can be cut out and the job as a whole simplified. The same process is applicable, in part, to administration, particularly to the problem of moving the work rapidly between those who do it and getting them to dispose of it promptly.

But industrial methods cannot be transplanted wholesale to administration. Management cannot, for instance, improve the technique of thinking, which is an essential part of each executive act. Better thinking is

a product of education and mental training<sup>2</sup>—it can't be implanted by a set of standard instructions. What management can do is to simplify and expedite the mechanical phases of administration, thus permitting executives to use their powers of thought to the best advantage. The most important time and motion economies in administration, however, are made in the transfer of business from one worker to the next—in the chain of communication which is integral in the administrative process.

The administrator of a large organization does not himself handle much of the routine work, at least he ought not to. He is essentially a ringmaster, not a performer. He is responsible for dividing up the work, assigning areas of operation to subordinates, and regulating the order in which things are done and the way in which work moves from unit to unit and division to division. The administrator, who is responsible for results, must satisfy himself that these matters are being managed correctly. But he should delegate the details to administrative analysts,<sup>3</sup> because the exact analysis needed for proper definition of functions, development of work assignments, and setting up of routines is too voluminous and too technical for him to do alone. The administrative analysts must, of course, work co-operatively with line officials. But they should have a *functional authority* for organization and procedure.

Each distinct executive or clerical operation performed by an individual is a task; repetitions of the same task are a duty. Nearly every task belongs to an administrative sequence, which is a series of tasks leading to a specified end. Not all the tasks in a sequence need belong to the same function; some objectives require the co-ordination of a number of functions. For instance, developing a public housing project may include finance, legal work, construction and social work, each a line function involving a different area of direct

<sup>2</sup> Proper thinking in administration, with constant reference to basic objectives and policies, is to some extent a product of indoctrination, concerning which see Mooney, James D. and Reiley, Alan C., *The Principles of Organization*, Harper & Brothers, New York, 1939, pages 10-13, 175-178.

<sup>3</sup> These officials are variously called "management planners," "procedure specialists," "industrial engineers," etc. Collectively, they may form a "management" or "procedure" division.

<sup>1</sup> Adapted from a chapter in the author's book, *Administrative Procedure—A Practical Handbook for the Administrative Analyst*, American Council on Public Affairs, Washington, D. C., 1941.

operation. Such an undertaking would also involve a number of staff or facilitating functions.

After a task or group of tasks is performed by an individual, the work must be passed on to someone else. These transfers of work (or more exactly, of the pieces of paper on which the work is recorded) may be spoken of as a whole as "administrative traffic." All the transfers needed to accomplish a given administrative sequence may be called the "motion" of that sequence and each transfer of the matériel<sup>4</sup> from one worker to another a "move." The first operation in analyzing an existing or proposed administrative sequence is to divide it into steps or individual tasks. Then it must be seen how many "moves" are needed. In the interest of efficiency, the number of moves and their distance (physically and organizationally) should be kept as low as possible.

#### Administrative Motion Takes Time

An administrative move may take anywhere from a few seconds to a few weeks. The time it takes, which can be called "motion delay," consists of three elements: (a) the time required for the physical transfer of the work from one person to another; (b) the time before the recipient gets around to acting on the matter; and (c) the time it takes him to decide what he should do about it. For example, an executive may have to get his superior's approval before he puts a certain plan into operation. So he writes a memorandum outlining the proposal. This may get to the superior in a few minutes if he is in the next room or in a week if it must go across the country by mail. There may be other matters on hand which must be dealt with first, so the plan may sit in a desk drawer for several hours or several weeks. When the superior finally reads the memorandum, he may have to spend some time securing the information he needs before passing judgment on it. These three elements of time constitute the motion delay in the particular case.

#### When is a Move Worth While?

The motion delay caused by any transfer of work is a variable quantity which can only be predicted within approximate limits. Each administrative move, however, does have a real cost in time and money, both in the operations needed to accomplish the move itself and in the effect on the time when the end result is obtained.

<sup>4</sup> This term is used to indicate the papers covering any administrative sequence or "case."

In general the time required for any move and the cost of handling the matériel increase with the physical distance. They also increase with the organizational distance: within a section or unit, papers may be passed directly between workers, between sections they are usually carried by messengers, while between divisions, particularly in large offices, they are often assembled and sorted out by mail rooms, or carried from one building to another.

To make any administrative move worth while, its direct and indirect time and money costs must be compensated by (a) increased efficiency through specialization, and (b) prevention of possible costly mistakes through supervision and control. When introducing moves in an administrative sequence, other than the absolute minimum needed for doing the executive work in the most direct way, it should be ascertained whether the gains from improved operation and control will outweigh the probable expense and delay.

#### Motion Requirements of Administrative Work

Different classes of work demand various degrees of specialization and hence varying quantities of motion. For example, the job of tuning a piano can best be done by a single workman. A move, or the turning over of a half-tuned piano to someone else to finish, would cause an actual loss of efficiency. The making of an automobile is exactly the opposite. The only efficient way to make one (or rather to make thousands) is to divide the work up into a great number of specialized tasks. Because automobile manufacture necessarily requires that each car pass to a long succession of workers each of whom adds something, its engineers have minimized the elements of delay by setting up production lines with exact timing of each step. This is only possible when the work is highly standardized, and there is always the danger of a complete tie-up when any machine breaks down or its operator sits down.

The motion requirements of administrative work are as variable as those of mechanical operations. There are some jobs which by their nature can best be done by a single person and others which necessarily require the collaboration of hundreds of people. Two elements are always open to judgment. First, within the general range determined by the nature of an undertaking, how far should one go in dividing up the work? Should each successive task be done by a different worker, or are there combinations which can be assigned to the

same individuals or units? Second, granted that a definite number of operating steps (those concerned only with the actual performance of the work) are necessary, how many control steps are needed to assure that the work has been properly done and that no irregularities have taken place? These are questions that the administrative analyst will have to answer.

To show how all this applies to an everyday problem, let us take the case of a construction superintendent on a highway project who finds that he needs an additional steam shovel. The purchase of this engine is an administrative problem of some importance, particularly if there are slick salesmen with good political connections in the offing. The simplest way in which the superintendent could get his steam shovel would be to go out and buy it. However, the rules of all public agencies and most private concerns require that materials (except minor items) be purchased through established channels, the reasons being: (1) to make sure that supplies bought are for reasonable and legitimate needs, (2) to see that they are appropriate for the uses to which they will be put, (3) to prevent "rake-offs," and (4) to secure the lowest prices through centralized purchasing and competitive bidding. So the superintendent, instead of buying the shovel, fills out a requisition stating exactly what he wants and supports it with a memorandum explaining why. The requisition is approved by the District Superintendent, and probably by certain other officers, and forwarded to the purchasing agent. This official has the specifications prepared or checked by a consulting engineer and then advertises for bids. On the basis of the lowest acceptable bid he buys the shovel and has it delivered to the project. All these administrative steps and the consequent moves take time and cost money, both directly and indirectly by holding up work on the project. Whether the result is a net gain or loss depends on a number of intangible factors including individual honesty and ability. One superintendent could perhaps buy machinery as well as the procurement officer while another might spend twice as much and not get the right thing. But whatever channels are set up for purchasing (or any other sequence) should operate with the fewest and shortest moves.

#### Charting an Administrative Sequence

The first thing to do in analyzing an administrative sequence is to list the individual tasks and the units which perform them. It is always good to present this

information graphically, so as to make clear the number and distance of moves and to throw into relief any back-tracking. A simple way to illustrate a short sequence is to superimpose the lines of flow on the organization chart. Let us suppose that a sequence carried on entirely within a certain imaginary division has the following steps:

- |                         |                     |
|-------------------------|---------------------|
| 1 (initiates)           | Chief, Section A    |
| 2 (approves)            | Executive Assistant |
| 3 (compiles statistics) | Unit 2 of Section B |
| 4 (additional data)     | Unit 3 of Section C |
| 5 (writes up)           | Subsection A-2      |
| 6 (reviews)             | Chief, Section A    |
| 7 (finally approves)    | Division Chief      |

The way this sequence would look drawn on the organization chart of this division is shown in Figure 1.

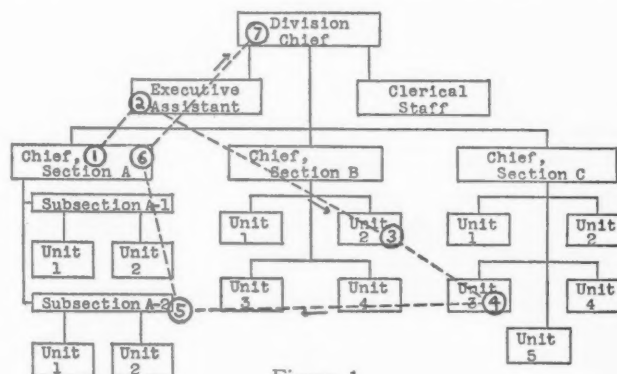


Figure 1

Another way of showing the progress of a sequence, particularly a long one, is a cross-analysis chart, sometimes referred to as a "flow chart."<sup>5</sup> Brief descriptions of the various steps are given in columns running across the paper, and the units or officers which perform them are listed at the head of columns running down. Usually the sections of a division are grouped together, and other offices are placed according to "organizational" distance. A cross-analysis chart of the sequence shown in Figure 1 is given in Figure 2.

The cross-analysis chart does not go into the details of operations nor does it cover the clerical steps in transferring and recording papers. It does not in itself provide a basis for concluding that any step or move is unnecessary. It is only a graphic index to the steps in a sequence and an indicator of where thorough investigation may prove most fruitful.

In tracing the course of a sequence, care must be

<sup>5</sup> There are several other kinds of flow charts.

taken to include every move and not merely the principal ones. It is surprisingly easy to make a chart which seems to be complete and then find, upon persistent inquiry, that there are operations which had eluded earlier observation and which those responsible for preceding or ensuing steps don't even know about. While written instructions and descriptions given by executives are useful as starting points, the facts must be verified by actually following the sequence around. Attention should be paid to customary ways of handling papers; for instance, if it is a written or unwritten rule that all papers passing from one division to another must clear through the divisional offices, the chart should not show them going directly from a section in one division to one in another. It is essential to account for even the most perfunctory steps, because each move introduces some expense and delay.

#### Analysis of Individual Tasks

The first step in analysis of an administrative sequence is, as we have seen, the making of a chart showing the time and place relationship of operations. This may be supported by a "time table" showing the average times between key steps if the files will yield the data. It is then necessary to consider each task as an entity and in its relation to the whole purpose of the sequence. Particular emphasis should be placed on the question, "why?" Lack of a definite answer from those responsible for the task may indicate that it should be eliminated.

The information about each step should include an estimate of its qualitative character, or as we shall use the word, simply its "quality." This is a summing up, preferably in numerical terms, of the answers to three questions:

1. How much skill and experience are required for performing the task?
2. How important is the subject matter; what are the consequences of omission or improper performance; and
3. How much discretion, judgment and authority are inherent in the work?

Tasks should not be rated by the pre-existing grade or salary of those who do them, or even by the qualifications they possess. On the contrary, positions are classified and filled according to the difficulty of their duties and tasks, and this definition is a function of personnel workers rather than administrative analysts.

Besides evaluating the quality of a task, the administrative analyst should determine its "functionality" or its exact place in the network of line and staff functions. With this information, with the general data on sequence and assignment in the form of a flow chart, and with sufficient background material, he may proceed to determine whether the sequence as it stands is the best way of accomplishing the objective, or whether it could be done more simply and more economically. The exact methods of interpretation and criticism must necessarily depend to a large extent on the subject matter and environment of the undertaking. There are, however, a few general criteria which will work in almost any instance if intelligently applied. They are simple—disappointingly so until one remembers that the best administration is simple.

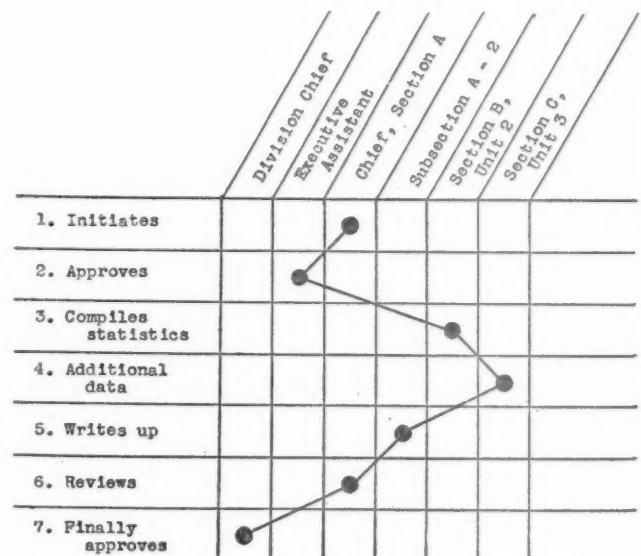


Figure 2

#### Evaluating an Administrative Sequence

An administrative sequence should, in general, conform to the following standards:

1. *Each task should contribute positively to the basic purpose.* Every step should fit into a logical pattern and should have definite and essential results. If the need for a step is doubtful, the presumption is in favor of eliminating it. Care should be taken that work is never duplicated, particularly in the field of control.

2. *Similar tasks should be combined.* Doing so will reduce the number of administrative moves and will

permit preliminary work, such as familiarization with the background of the particular case, to be done once instead of twice.

3. *Administrative moves should be as few and short as possible.* The time and cost of motion make direct routing essential. Formal signatures and clearances should be kept down to the minimum; the matériel should travel as rapidly as possible between those who do the actual work.

4. *Each task should be well balanced.* The three elements which make up the quality of a task should be well adjusted. For instance, skill and authority should not be wasted on unimportant subject matter. Nor should a task which requires experience and judgment include a lot of unessential detail.

5. *Tasks should be properly assigned.* The person doing each task should be the right one in terms of the task's quality and functionality. For instance, a division chief should not be assigned a job which an administrative assistant could do, nor should an economist be asked to approve mechanical specifications.

These criteria are in a sense restatements of the common-sense proposition that energy should be reserved for the most essential work and then utilized as completely as possible. This rule indicates the elimination of steps which are mere formalities or which embody administrative fictions such as the concept that the department head or the bureau chief does all the acts which are in fact done by his subordinates. It is a symptom of faulty planning when high executives have to sign a multitude of miscellaneous papers which they have had no hand in preparing and often do not even have time to read. Such documents had much better be rubber-stamped, issued over the signatures of subordi-

nates, or signed "impersonally" in the name of the organization.

The last practice is followed extensively by European governments but has not been adopted in the United States. The Tennessee Valley Authority, however, uses a modified form of this device by signing its letters:

"TENNESSEE VALLEY AUTHORITY,  
JOHN SMITH,  
Executive Assistant," etc.

#### Uses of Administrative Analysis

The method of analyzing an administrative sequence which has been outlined is frankly qualitative and based upon judgments which the investigator has to make. It is designed to reach activities to which more precise methods, such as statistics and cost accounting, cannot be applied. In the "intangible" sphere of higher administration we must necessarily use qualitative and perceptive data, but if we proceed with caution and constantly check our mental process, we can make practical improvements in administrative technique.

Administrative theory is like economic theory—it begins with the abstract and works down toward the concrete. Before the economist can hope to deal with the complexities of current problems he must sharpen his "tools of thought" against imaginary problems which are deliberately oversimplified to bring the method of attack into the clearest relief. The same is true of the administrative analyst. Analysis of administrative sequences (which are more definite than functions or organizational relations, and easier to describe exactly) is one of the best ways of applying administrative theory to a practical situation.

#### Measuring Salesmen's Performance

(Continued from page 57)

ratings calculated by multiplying the assigned weights by the rating value shown under instruction 4. In keeping with practice, column 5 provides space for the personnel department to review the ratings.

Considerable care was exercised in the selection of the points to be assigned the ratings of individual traits, as well as their weights, for purposes of this particular form. It provides that salesmen be rated on a scale ranging from 8 points, for superior, to 0, for unsatisfactory, and that traits be weighted with respect to the job held by the salesman, as: essential, 4; desirable, 3;

unimportant, 2. These values should be used only as a guide by those who are undertaking the establishment of a rating program. Point values and weights are meaningful only as they are carefully defined and understood by those who use them.<sup>7</sup>

Shop managers have found already that merit rating is a useful tool. If those in charge of sales derive no benefit from merit rating other than being forced to study their salesmen in relation to their respective jobs, it will be well worth the time and effort involved.

<sup>7</sup> For more detailed discussion, see Knowles, *op. cit.*

# Pricing the Wage or Salary Scale<sup>1</sup>

By SAMUEL L. H. BURK

Chief Job Analyst, The Atlantic Refining Company, Philadelphia

GROWING interest among personnel and operating executives in systematic and orderly salary and wage administration has resulted in the development of a number of job evaluation methods. The trend is toward the use of points to quantify and qualify differences in difficulty and importance existing among jobs within an organization. The use of points, instead of some over-all grading, also provides a more accurate basis for recording the original judgments involved in determining the relative values of jobs, so that questions arising after the initial rating can be adequately answered. Although methods employing points vary widely in detail, the common result of their application is a job comparison schedule which lists positions in various grades or levels, with the differences among grades expressed mathematically by means of "difficulty points."

The term "difficulty points" is an abbreviation of "difficulty and importance total point rating." In other words, the term applies to the total of the ratings assigned to each of the factors that make one job more or less difficult and important than another. For the purposes of this article, it will be assumed that all jobs within an organization have been assigned difficulty point ratings by means of the factor comparison method, or some quite similar method of job evaluation.<sup>2</sup>

Briefly, this method involves:

1. Job analysis and specifications—full and complete recorded descriptions of duties, requirements, responsibilities and working conditions of each position.
2. Selection of fifteen to twenty "key" or "anchor" jobs within the organization in connection with which there is no known disagreement as to correct rate. These should range in rate from somewhere near the lowest to approximately the highest paid jobs to be covered and should be well established and capable of exact definition. It is important that they be common

to the company and the market in which the company competes for labor.

3. Determination of the factors which, in total, make one job more or less difficult and important than another; these factors are usually mental requirements, skill requirements, physical requirements, responsibility and working conditions.

4. The use of pooled judgment for analysis of the going or existing key job rates in order to determine the contribution of each factor in each key job to the total rate.

5. The preparation of a job comparison scale resulting from 4, above, on which the various levels of each factor are defined by one or more of the selected and analyzed key jobs and evaluated in cents per hour, or dollars per month, etc.

6. The use of the job comparison scale as a measuring stick for evaluation, by the application of pooled judgment, of all other jobs included in the study.

7. Checking the resulting new rates by having over-all or total rate comparisons made by individuals other than those employed in the detailed factor rating.

The next step is to determine how the difficulty points can be validated as correct salary or wage rates. This involves a study of the effect of the new difficulty and importance schedule on present salary or wage relationships within the company, as well as determination of the adequacy of the company salary levels as measured by outside labor markets.

## Internal Relationships

The primary purpose of job evaluation is to redistribute the present total payroll more equitably among employees. If the work up to this point has been well done, correction of rate inequalities within the company should be accomplished without appreciably increasing or decreasing the total payroll dollars to be spent.

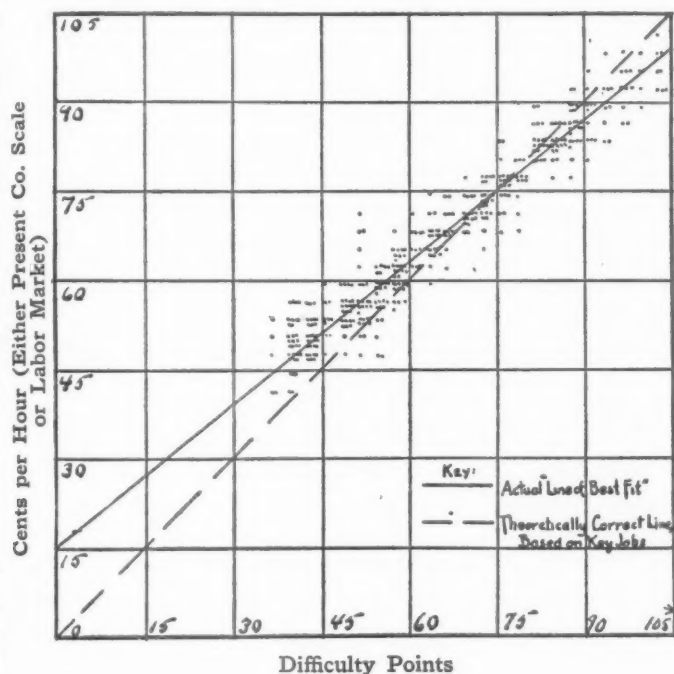
The factor comparison method of job evaluation results in difficulty point ratings which are directly expressed in terms of wage rates; that is, cents per hour, dollars per week, per month, etc. Regardless of the

<sup>1</sup> This article is excerpted from the book *Manual of Job Evaluation* by Eugene J. Bengé, Samuel L. H. Burk and E. N. Hay, to be published in the summer of 1941.

<sup>2</sup> For detailed descriptions of this method, see: Bengé, Eugene J., "Gauging the Job's Worth," *Industrial Relations*, 1932; Burk, Samuel L. H., "A Case History in Salary and Wage Administration," *Personnel*, February, 1939; Hay, E. N., "Arranging the Right Pay," *Personnel Journal*, April, 1939; Bengé, Eugene J., "Job Evaluation and Merit Rating," National Foremen's Conference, 1941.

point evaluation method used, some jobs will be shown to be overpaid and some underpaid. On the basis of these indications a new payroll should be computed on the assumption that all overpaid jobs will be reduced either to the new correct flat wage rates or the new salary grade maxima, and all underpaid jobs increased to the new correct flat wage rates or the new salary grade minima. These computations must be weighted by the number of employees in each position. The total of the computed payroll should not vary appreciably from the existing payroll. Should this variation amount

**EXAMPLE OF SCATTER DIAGRAM FOR  
FOR WAGE RATE COMPARISONS**



to more than 5 per cent, the job ratings for all underpaid and overpaid positions should be re-examined. In most companies the variations will not be over 2 per cent. However, a number of factors, such as mergers with other companies, widely varying departmental policies, etc., beyond the control of the raters, may have caused the old payroll to be out of line more than the 2 per cent allowable.

Another computation is necessary in studying the effects on the existing payroll of the new job comparison scale. It involves consideration of the degree of under or overpayment of lower grade jobs as compared to the degree of under or overpayment of higher grade jobs.

This may be determined by the preparation of a scatter diagram as shown in the illustration, in which difficulty points are plotted on the X axis and present compensation per hour, month or year on the Y axis. The line of best fit should be computed, not drawn by inspection, on the basis of the method of least squares. The resulting line should theoretically have its origin at zero, and theoretically should not have a positive X or Y intercept. In some cases, however, the salary or wage rate history of the company will have been such that the line does not run through the origin, but indicates a general under or overpayment at one end of the scale with a corresponding over or underpayment at the other. Moreover, most companies have a minimum starting salary or wage for the lowest grade job regardless of relative difficulty and importance. Decision as to the correct slope of this line, as well as determination of the minimum rate, should not be made at this point, but after the next step; namely, determination of relationship of company rates to outside rates.

#### External Relationships

External relationships are determined by what is commonly known as the labor market survey, the purpose of which is to measure the adequacy of the present company wage or salary scale in relation to competitive labor markets. This includes a comparison of the general level of the company's wage scale with the market wage scale, as well as comparison of the slope of the company's line representing the central wage or salary tendency with the slope of the line representing the same tendency in the competitive labor market.

When computation of the market wage line has been completed, final decision as to the wage or salary line to be installed within the company can be made on the basis of competitive position, economical ratio of wages and salaries to total costs, company position in the community, grade of employee hired and other factors influencing the individual company's traditional wage policy.

Market surveys can be made at several points in the job evaluation procedure; the points at which they are actually made will depend on a number of factors. If the background of the wage and salary structure of the company itself is such that management can have little faith in the present wage scale, a market survey might well be undertaken prior to the initial factor analysis of the key jobs. (See step number 4 above.) If, however, centralized salary and wage administration of some sort has been the past practice, and this centralized admin-

istration has been closely tied in with a satisfactory study of market rates, the market survey may be made advantageously after the evaluation of all jobs.

In some cases the company itself "makes" the labor market; that is, some companies are located in small communities known as "one industry towns." In such cases the company will have no competitors in the labor market, and other means of measuring the adequacy of the wage scale must be employed; such as, determining rates paid for like occupations in similar locations. On the other hand, the degree to which the company actually competes in the market must be considered.

There are various kinds of market differential. In the larger cities it will usually be found that there is a "type of work" market. For example, there will be a clerical labor market; a market for unskilled, semi-skilled and skilled manual workers; and a market for salaried, professional and technical employees. It will also be found in the larger centers that there are industry markets. Some industries as a group, because of profitability, productive efficiency of employees, and a number of other causes, tend to pay more or less than other industries. Companies operating in several locations will find also that there are geographical labor market differentials which must be considered when setting the scale for each location.

#### The Labor Market Survey

The procedure used in making labor market surveys has evolved over a long period of years from a simple questionnaire technique to a detailed job description interview and comparison procedure. The practice of listing job titles and broadcasting such lists to competitors and other companies with requests for the rates paid for jobs so titled is still a popular method, although the results obtained are usually inaccurate and often misleading. Conclusions made on the basis of such surveys frequently lead to altercation and bickering. The apparent saving of time and money from the use of such oversimplified methods is more than offset by the additionally accurate information secured under the more detailed and time-consuming procedures.

Admittedly the labor market survey as carried out by the more careful methods will not yield wholly accurate results. Various factors such as differences in individual workers' efficiency, differences in organization, employee privileges, etc., cannot be evaluated. Satisfactory accuracy, however, can be achieved by eliminating any errors inherent in hasty or sketchy job title comparisons.

If the more accurate method is to be used, a list of twenty to forty "anchor" jobs should be prepared. The list should include jobs which are common to the company and the outside labor market. The jobs should range in difficulty and importance from somewhere near the lowest to somewhere near the highest in the company's range. Accurate and brief definitions of these jobs based on the job specifications should be prepared and circulated among the co-operating companies with the request that these companies select jobs within their organizations which most closely compare in content to the jobs described on the questionnaire. They should be asked to state the number of employees on such jobs and the rates paid. If more than one rate is paid for the same job, the number of employees paid at each rate should be shown.

After the sheets have been sent out and the contributing companies have had a chance to accumulate the information, a representative of the industrial relations department or the job analysis staff should call on the co-operating companies and discuss comparative job content to the extent that the interviewer feels able to rate the competitive job on the basis of his company's factor comparison point rating. Care should be taken, during the interview, to eliminate quotations for individuals whose wage or salary rates are far out of line in relation to the average because of personal considerations outside of the range of job value. If there are thirty to forty anchor jobs, this procedure usually takes about one-half to a whole day per company interviewed.

When all the contributing and competing companies have been interviewed, the company making the survey will have secured data from which a scatter diagram can be constructed. The line indicative of central tendency of these data can be computed by the method of least squares, and the resulting line compared with the line which represents the central tendency of rates existing within the company. The comparison should be made not only on the basis of general level of the company and outside market wage scales, but also on the basis of differences in slope of the two lines.

#### Selection of Company Wage or Salary Level

Determination of the proper level of wages is important from management's point of view because management must be in possession of full knowledge of the facts connected with the wage rates when it has collective bargaining discussions. Moreover, the selection of an adequate relationship to the average market wage enables an employer to secure the quality of

employees required without going beyond the amount necessary to secure such quality. Normally, salary and wage rates should be maintained at somewhere around the average of the markets for the type of employee in the particular industry in which the company is engaged, in the location in which it operates. If salary scales are too low, the better employees will tend to seek employment elsewhere. If salary scales are higher than those necessary to secure and hold a reasonably high grade of employee, then the company will be operating uneconomically. Profitability of the industry as well as the company, must, of course, be a determining factor in final selection of the scale.

The approach to the solution of the correct slope of the market line is to attempt to pay, as far as possible, the same number of cents per hour (or dollars per week, or per month) per point along the entire scale. This is the logical approach and the most defensible solution. Higher grade or more highly skilled employees are bound to question any wage or salary scale which appears to penalize them to the advantage of the lower grade and less skilled employees. On the practical side, however, in the last few years there has been a tendency toward raising the relative relationship between difficulty and pay for the lower grade employees and lowering the relationship for the higher grade employees proportionately. The question of whether this is a temporary labor market aberration or a long time secular trend is one that cannot be answered conclusively with the facts at hand. In the present national defense emergency, companies that have not proportionately increased rates of the higher grade skilled workers are finding it difficult to hold this class of employee. Companies which have maintained apparently correct relationships between skilled and unskilled workers seem to be having little difficulty in maintaining their skilled working force. General wage scale decreases or increases on a percentage rather than on a flat rate basis is the safest and most logical course.

When a market survey indicates the necessity of revising the company's wage scale either upward or downward, the original, detailed point ratings need not be altered. For example, let us suppose that a 5 per cent general wage scale increase is decided upon as a result of the initial evaluation and the first market survey. The total difficulty points assigned to each hourly rated job can be multiplied by a conversion factor of 1.05 to arrive at the new rate. Similarly, if salaried jobs are involved, the salary minimum and maximum for each grade can be multiplied by 1.05 (i. e.,

the 5 per cent rise) without disturbing the difficulty point relationships.

Companies that use the labor market survey must recognize the fact that the information so secured will indicate a range or "band" of rates rather than a number of points on a line, as wide variations in rate are usually paid for jobs of similar content. Moreover, market rate differentials among jobs will not always be proportionate to or in line with the company's established differentials. For example, the average market rate for a job rated at 76 difficulty points might be 80 cents, while the average rate for a job rated at 80 points might be 78 cents. For these and other reasons, the selection of the rates for all jobs in the company should be along the line of central tendency of all of the market data rather than the average market rate of any particular job.

Temporary disturbances of the labor market may be caused by a sudden heavy demand for some one kind of skilled worker such as electric welders. At such times a company may be forced to pay higher than its standard or established rate in order to hire qualified employees in that work. Such departures from the correct rate should be adequately labeled and closely watched. As soon as the temporary condition has ended, the rate should be reduced to its proper relationship with other job rates. Should there appear to be difficulty in hiring a majority of workers, or a general grade of workers, then the entire wage scale should be re-examined for both general level and slope. In any case, market surveys should be repeated at frequent periodic intervals in order to keep management's information up to date.

In the case of salaried positions, for which ranges of rates are usually provided rather than flat rates, the line of central tendency of the market should be used as the basis for setting the geometric mid-points of the salary ranges. Salary grade minima and maxima should be a fixed percentage below and above each grade mid-point.

There are certain by-products of labor market surveys which are frequently overlooked. These by-products result from the ability to secure concurrently detailed information in connection with personnel and industrial relations practices of other companies which cannot be evaluated or measured, but which should be known to management. A number of these by-product items enter into total remuneration if not into the wage or salary rate, and should be considered when comparing relationships of difficulty and importance to money

between two or more companies. Such factors include incentive payments, profit sharing plans, special services provided for employees, either free, at cost, or at reduced rates, centralized employee purchasing activities, vacation and absence privileges, hours per week, or per month, and payment for time spent in compulsory or voluntary military service.

### Conclusion

Procedures involved in making market surveys and in the analyzing and evaluating of jobs parallel closely those cruder methods employed by companies with no formal plans. Such companies determine, as best they can, market rates for certain jobs common to their organizations and outside concerns. Rates for specialized jobs within their organization are determined by interpolation with common job market rates. The formal, detailed market survey, job analyses and the factor comparison method of job evaluation accept the principles of the older procedure, add the scientific approach—the recording of known facts, the development of qualified opinion, the pooling of judgment and analytical methods—to arrive at a systematic method for determining wage and salary rates and differentials.

### Profit Charts to Aid Management

(Continued from page 60)

sents variation in profits with volume of output using existing equipment; while line B represents profit variation that can be expected after installation of the new machinery. Line A is plotted by substituting in equation (2) the cost and price data given above for present equipment. Line B is likewise plotted by substituting estimated costs after the change in equipment.

By inspection of the chart it is readily seen that the new equipment will prove more profitable for any output above 80,000 units per period while at lower output levels the present methods will be more profitable. Hence only in the event that the sales department can maintain a sales volume of more than 80,000 units per period will the change be advisable. Here again the profit chart furnishes a summary of the facts needed to serve as the basis for an important executive decision and it presents these facts in such a form that they can be quickly and accurately visualized by the person who needs the information.

## REVIEWS

### *Bureaucracy and Trusteeship in Large Corporations.*

By Marshall E. Dimock and Howard K. Hyde, Monograph No. 11, Temporary National Economic Committee, Government Printing Office, Washington, D. C., 1940, pages ix, 144.

Reviewed by HARRY ARTHUR HOPF, Senior Partner, H. A. Hopf and Company, Management Engineers, New York; President, Hopf Institute of Management, Ossining, N. Y.

Bureaucracy is an ageless phenomenon which has probably existed since the early development of organized society. In more modern times, especially during the *ancien régime* of France, finally abolished by the Revolution, and the period of waxing power of Prussia under Frederick the Great, its clumsy and pompous manifestations of authority intervened irritatingly in the most minute affairs of the common people. A hundred years ago, Mill, in his *Political Economy*, commented upon the "inexpediency of concentrating in a dominant bureaucracy all the skill and experience in the management of large interests, all the power of organized action, existing in the community." Half a century later, Schmoller, in his *Volkswirtschaftslehre*, pointed out that bureaucracy in large-scale industrial enterprise was one of the factors responsible for diminishing the net return of production. Today, we need only turn to the federal government in Washington to observe a glaring example of fast-spreading bureaucracy which, in the opinion of this reviewer, is bound, if unchecked, to interfere more and more with perpetuation of the democratic process.

It is because of what increasing size has come to signify in American government and business of today, but still more important, what it may portend with respect to social, economic and political developments inimical to our way of life, that the monograph which is the subject of this review should be eagerly welcomed by all thoughtful students. In addition to presenting a brilliant and convincing analysis of complicated and confused conditions, it advances remedial measures which require for their adoption no new legislation, but rather changes in points of view and practice which nevertheless rest upon the solid foundation provided by the accumulated experience of the last generation in the field of management. That the consummation of such changes is a problem fraught with great difficulties will be readily recognized by all who have probed sufficiently beneath the surface to comprehend that leadership, as expressed in public or private institutions, represents the interaction in those who exercise it of a host of influences among which lust for power, urge for social distinction, ambition to make money and aspiration to acquire public recognition, assume high rank.

Marshall E. Dimock and Howard K. Hyde, two capable students of economics and political science, present in this monograph both the results of their researches into the manifestations of bureaucracy in a variety of business and industrial organizations, and an illuminating discussion of managerial correctives employed, recommending "some (of these) that might secure and enforce greater trusteeship in business management." In

common with many other writers, the authors are impressed with the need for counteracting the "inflexibilities incident to large size" in American government and business. The material on which their study is based is part of a still uncompleted inquiry begun by them several years ago when they were connected with the University of Chicago. It was the belief that its publication at the present time would fit in with the purposes of the Temporary National Economic Committee that caused the authors to accede to the request of the Committee for a monograph on the subject indicated.

Dimock and Hyde approach their tasks by considering the nature and scope of big business. They point out that the development of giant corporations has been attended by separation of ownership from management control, and that the very complexity which has developed with increasing size has laid the foundation for bureaucratic conditions. They explain that while in popular parlance bureaucracy is a term of opprobrium, it has a technical, literal use "which makes it indispensable in the description and analysis of large social aggregations," and that it is proper to say that "an aspect of bureaucracy is desirable or undesirable, but only from the standpoint of the objectives sought."

After describing the characteristics of bureaucracy, the authors emphasize in the second part of their work the belief that the evils attendant upon this condition are not confined to any particular class of human endeavor, but seem rather to inhere in large organizations. They then consider the causes of the objectionable features of bureaucracy, classifying them roughly into structural and personnel factors. Under the former, they mention six groups of forces: separation of ownership and control; diffusion of authority in and over an enterprise; formalization of rules; growth of corporate institutionalism; lax definition of authority and responsibility, and difficulties of communication and integration. Under the latter, they specify ineffective leadership; low level of morale; habit and inertia; privatization (*sic*) of functions; desire for power, and decline of the prod of competition.

In the third part of their work, the authors deal with some of the managerial correctives of bureaucracy. They point out that the administrative antidotes to the evils of bureaucracy are as numerous as the structural and personnel causes which they have discussed, and that a complete survey of possible remedies would require a comprehensive treatise on corporate management. This part is of particular interest to all concerned with the institution of sound conditions in the management of corporate enterprise, whether large or small, and comprises some of the more important elements of a program which is familiar to all experienced management engineers.

Under structural conditions, the authors specify definition of objectives, responsibilities and authority; preventive maintenance applied to administration; judicious use of standard practices; improvement of devices of internal co-ordination and control; decentralization, and emphasis upon public relations. With respect to personnel factors, the authors limit themselves to an informative discussion of good leadership as a managerial corrective of the evils of bureaucracy, and emphasize the problem of creating and maintaining a high level of morale among the rank and file of employees. In a summary chapter, the im-

plications of governmental bureaucracy are briefly considered and the conclusion is reached that most of the managerial correctives discussed are applicable to both government and business.

The fourth and final part of the monograph is devoted to consideration of the implications of trusteeship in large corporations. While bureaucracy is a problem in management, the authors assert, trusteeship is a problem in democracy. Certain shortcomings of trusteeship indicate that some additional control over management is necessary, but "it is apparent to the administrative realist that excessive regulation may defeat its own purpose." The authors describe the underlying problem of trusteeship in the following terms:

"When power becomes concentrated in the hands of a few persons, can they be influenced to wield their authority in behalf of interested groups, and to restrain a desire to aggrandize themselves through their strategic positions; or, if those groups are to be protected, must formal sanctions be established which possess coercive power?"

Within the limits set for this review, it is not feasible to make even passing reference to the facts and points of view presented by the authors in addressing themselves to answering the query which they have propounded. The manner in which they have dealt with the problem may, however, be indicated by the character of the recommendations which they present at the conclusion of their discussion. In brief, they advocate that adequate publicity be given to the requirements of trusteeship, the need for non-officers on boards of directors, the desirability of limiting the number of directorships which one person may hold, and the desirability of more adequately paying directors, and of expecting them actually to direct.

It is, furthermore, suggested by the authors that the TNEC recommend legislation which will require that corporations engaged in interstate commerce furnish periodically to their stockholders data on their directors, including qualifications, other directorships held, and attendance at board meetings; that, moreover, such corporations furnish prompt and complete information to the federal government upon production, sales, employment, wages and hours, together with reasons for changes which will materially decrease the level of economic activity; that the Bureau of Standards and the consumer activities of the Department of Agriculture be expanded to conduct comprehensive tests on products; and that public accountants certifying the accounts of such companies not only satisfy themselves that the records have been kept in accordance with accounting principles but also that the accounts themselves appear to be correct.

Finally, the authors suggest that the TNEC study the possibilities of legislation to be enacted if the milder forms of regulation which they have recommended prove inadequate, such legislation to require that some set minimal proportion of the members of boards of corporations engaged in interstate commerce be outside, non-officer, persons; that no person hold more than a set minimum<sup>1</sup> of directorships; that there be uniform federal incorporation of corporations engaged in interstate commerce; and that the practical effectiveness of the stockholder privilege of nominating directors be enhanced.

<sup>1</sup> The text reads "minimum," but "maximum" is evidently intended.

However sweeping and debatable some of these suggestions may appear at first blush, it must be recognized that they derive from thorough analysis of the conditions to which they are intended to apply and are, therefore, entitled to careful consideration and study. Perhaps the reviewer may be permitted to observe that despite the laudable character of the objectives to be accomplished, he is concerned over the possibility that enactment of the proposed legislation would cause so great an increase in the volume of paper work to be reviewed periodically by the federal government as to furnish still further opportunity for the development of bureaucratic conditions. This certainly would be a consequence much to be deplored.

Basically, the problem of bureaucracy, whether in business or government, is but one aspect of the larger subject of optimal size. When organizations exceed the limits of optimal size not only do the weaknesses of bureaucracy become accentuated, but the difficulties of trusteeship are underscored. What is needed in American business is more general acceptance of the fact that there are limits of size which cannot be exceeded without incurring diminishing returns. Once the implications of this fact are heeded, bureaucracy will be reduced to more tolerable dimensions and the exercise of trusteeship will be governed by recognition of quality of results rather than mere volume as the essential goal of accomplishment. Perhaps it is the intention of the authors to dwell upon this desideratum in their larger work.

Taken as a whole, the monograph under review redounds greatly to the credit of its authors. It is a pioneering study of much value which lays bare conditions and tendencies definitely in need of remedial treatment. It should be studied carefully by all those who hold or aspire to hold positions as business or governmental administrators.

#### *Wage Setting Based on Job Analysis and Evaluation.*

By C. Canby Balderston, Industrial Relations Counselors, Inc., New York, 1940, pages 59. (\$1.00.)

Reviewed by THE PRODUCTION COMMITTEE OF THE NEW YORK CHAPTER OF THE SOCIETY FOR THE ADVANCEMENT OF MANAGEMENT.

The title of this book suggests that the emphasis is on Wage Setting, using Job Evaluation as a means to this end. However, the book is almost entirely confined to discussion of the techniques of Job Analysis and Evaluation. Quantitatively, not more than three of the fifty-nine pages deal with the Wage Survey—that necessary step in the translation of the results of Job Evaluation into cents per hour.

Professor Balderston's present authoritative treatment of the subject of Job Evaluation is at once exhaustive and concise. Not only does he display today's methods—he traces their historical development as well. His references and bibliography are well chosen and treated in logical sequence.

On page fifty-six, Professor Balderston discusses the problem arising when "incentive workers" are momentarily placed on "day work." He argues correctly that such time should be paid for at rates equivalent to those of the regular day workers. As a means for accomplishing this, however, he suggests "a

guaranteed base rate should be established equal to the day rate that would be paid if the job were not 'on incentive.'"

The validity of this suggestion is open to debate. To make the piece workers' base rate equal to the day rate results in a disproportion between the take-home pay of the two employees, unless the incentive system is set up to yield a per cent bonus so small as to be open to objection. A reasonable way out seems to be the assignment of two rates to each employee—a base rate to be used when he is on incentive, and a day rate, larger in amount, to be used when he is on day work.

In the limited attention given to wage survey technique, the book is not without an appreciation of the importance of the problem. However, this cannot be considered as an addition to the meager literature on the problem of wage surveys. When one contemplates the effort which has been put forth on developing indexes of cost of living and its many subdivisions, or of business activity and its many subdivisions, it is puzzling to note that the data on trends of wages for specific jobs or collections of jobs is only sporadic, and that there is no agreed-upon practical means for preparing a running picture. In the minds of some, the trend of wages is of an order of importance equal to that of the trend of cost of living. It is to be hoped that this problem will receive increased attention from organizations such as that of Industrial Relations Counselors, Incorporated.

*A Study of the Effect of Practice on the Elements of a Factory Operation.* By Ralph M. Barnes and James S. Perkins, with the assistance and collaboration of J. M. Juran, University of Iowa, Iowa City, Studies in Engineering Bulletin, Number 22, November, 1940, pages 95. (\$.75.)

Reviewed by J. K. LOUDEN, Director of Industrial Engineering, The National Supply Company, Pittsburgh.

This booklet covers in detail the extensive experiments made by the authors in an attempt to discover what effect practice has upon the performance of "therbligs." The report is complete, with interesting data and well-balanced discussion. It presents and substantiates findings which are valuable to the practical motion economist as well as to the laboratory motion analyzer. One such original observation is that more consideration should be given to reduction of the number of eye fixations required to perform hand operations. This indicates that standard practice instructions should include a description of visual patterns.

The results provide further substantiation for the belief that the elimination of fumbles and waste motions through practice is a greater factor in improving cycle time than the increase of speed of movements.

The theory that mathematical rating techniques can be applied to cycle time values to determine the effectiveness of the operator was not given support by the results of this study.

The study is also noteworthy as the result of a joint undertaking by a university and a manufacturing concern. The results obtained, while admittedly not conclusive, point out the way for further investigation and study which we sincerely hope will be forthcoming. It also points out the fact that any such investigations to be conclusive have to be undertaken on a

comprehensive scale. This means that no one industry or institution will be able to carry this work to its conclusion. Any conclusive studies must be the result of collaboration of all industries and of educational institutions.

A noteworthy beginning in this field is the work being done by a committee for Standardizing Rating of Time Studies of The Society for the Advancement of Management. In this undertaking capable engineers in many industries and educational institutions are jointly attempting to determine a sound, practical basis for rating, or grading, effectiveness and standardizing nomenclatures and techniques.

This bulletin is recommended as a valuable addition to the technical library of the student and practicing industrial engineer.

*The Selection and Development of Prospective Foremen.* By John W. Riegel, Bulletin No. 11, Bureau of Industrial Relations, University of Michigan, Ann Arbor, Michigan, 1941, pages 69. (\$2.00.)

*Reviewed by A. B. GATES, Director of Training, Eastman Kodak Company, Rochester, N. Y.*

This bulletin is in reality an essay on the selection, pre-assignment training, and training subsequent to appointment of foremen and supervisors. The findings are based on the results of a survey, made in the latter part of 1940, of executive experience and opinion in twenty leading companies. The author, however, has used, as a foundation and as a yardstick against which current opinion can be checked, information and ideas developed in previous studies or obtained from contacts with other executives and programs in operation.

The bulletin recommends that: the supervisory positions to be filled be analyzed from the standpoint of responsibilities involved; the candidates be selected from the standpoint of their apparent potential abilities to meet these responsibilities; the candidates be given preassignment training to demonstrate that they have these abilities and partially to develop them, and finally after selection the training be continued to round out selectees' supervisory ability and personality traits.

The proposed plan will undoubtedly at first seem too comprehensive to an executive who is faced with the necessity to expand his organization to double or treble its original size. A careful study of the proposed procedures will, however, disclose that many of the suggested procedures, methods and records of personnel are now in existence or are readily available. For these reasons any executive who is faced with an abnormal expansion will do well to study the results of this survey or have someone in his organization check the company's plans for expanding the supervisory personnel against the comprehensive pattern of procedure recommended by the bulletin. Just as the responsibilities of supervisors vary in character from company to company and even from department to department within a given company so will the problems of selection and training of new supervisors vary. Some phases of the problem, however, are common to all situations. It is these common phases that the author has attempted to weave into a pattern which can be used as a guide in solving the individual problems of a given organization.

*The National Labor Policy and How It Works.* By Joseph Rosenfarb, Harper & Brothers, New York and London, 1940, pages xxxii, 732. (\$5.00.)

*Reviewed by HERMAN FELDMAN, Dean, School of Business and Civic Administration, College of the City of New York.*

In this packed volume we have an exhaustive summary of the National Labor Relations Board, prepared by one of its own attorneys. Its encyclopedic table of contents alone requires twenty pages and its thousands of footnotes and references to court and Board cases reveal the lawyer's delight in expansive citation. It is thus a most useful reference book on those matters which otherwise would be scattered over the numerous publications and memoranda of the National Labor Relations Board, and students of the problem will be grateful for the vast labors which the author has taken to prepare this handy treatise.

Its scholarship is, however, affected by the zeal of the author, who writes in vigorous and practically complete justification of everything that the Board has done and who finds "categorical affirmatives" to many questions on which outside students are much more uncertain. The book may thus definitely be considered as an extension publication by the Board. The impartial student will find that the discussion of the huge number of topics which the book covers is in the spirit of a brief in favor of economic and administrative policies held by the Board, that there are too many overconfident assertions on points which are, at the least, debatable, and that even in the use of language (such as "without doubt") one is meeting an enthusiast who has been too close to the official view or is too sympathetic to the problem to look at it wholly objectively. But no one interested in the subject should pass up the opportunity to have this vast and valuable compendium of the facts and controversies that have arisen in this field.

*Salary Determination.* By John W. Riegel, Bureau of Industrial Relations, University of Michigan, 1940, pages 278. (\$3.50.)

*Reviewed by THE PRODUCTION COMMITTEE OF THE NEW YORK CHAPTER OF THE SOCIETY FOR THE ADVANCEMENT OF MANAGEMENT.*

Professor Riegel's book is a study of the policy underlying compensation of salaried employes, of the techniques for organizing and planning to put the policy into effect and of the administrative problems which arise. The basic materials for this study were the policies and procedures of forty companies which, from the descriptive material, are quite evidently of considerable stature in the business world. Backed by this wealth of material, Professor Riegel's presentation must be considered authoritative in so far as it discussed the procedures of large organizations concerning salary determination.

Perhaps this very characteristic which should make this report of great value to large organizations will leave a doubt as to its value to small organizations. Salary determination for small companies is a problem of much importance and of wide significance. However, it has received, by comparison, only limited attention in the literature of the day.

It would seem that there is a need for a means whereby small companies may undertake a program of salary determination without assuming an expense which to them is burdensome in proportion. How for instance can the limited influence of a small company obtain salary data from other companies? Perhaps there is need for a market place of information, through trade associations or through trade journals, where all companies, great and small, may bring their data and in return, obtain data from others.

In the current volume, Professor Riegel has, with good effect, stated his personal opinion on some of the controversial matters. An opinion formulated from so extensive a study is entitled to much weight, and this addition is felt to constitute an improvement over the predecessor volume on Wage Determination (Riegel, John W., *Wage Determination*, Bureau of Industrial Relations, University of Michigan, 1937)—which cautiously refrained from entering the lists of conflicting practice.

*Industrial Organization and Management.* By Ralph C. Davis, Harper & Brothers, New York and London, 1940, pages xxii, 636. (\$5.00.)

Reviewed by SANFORD E. THOMPSON, *President, The Thompson & Lichtner Company, Inc., Boston; Expert Consultant to the Secretary of War, Office of Under Secretary of War, Washington, D. C.*

The book presents a comprehensive treatment of organization and management in an industrial plant. Beginning with the development of modern management and recognition of Frederick W. Taylor as the founder of scientific methods in management, the author proceeds with the principles of organization and executive responsibility, next covers the various phases of plant location and equipment, material handling, lighting and air conditioning and then properly devotes the body of the book to the various features of planning and production. Then the later chapters cover the subjects of purchasing, labor and personnel relations and control, and finally a chapter on office management and one on cost and budgeting control.

The treatment of all of the subjects is thorough and detailed, although one cannot but feel in reading the pages that the writer lacks a complete conception of the science of management in presenting treatment of methods with too little reference to fundamentals.

The treatment of production control is thorough but with insufficient emphasis on the utilization of the time element in the primary planning in order to be sure that all parts can be put through the plant without delay. In the discussion of the functional organization there is a lack of appreciation of the fact that a function is a primary element in management and does not represent the entire work of one man as is indicated in his diagram. One man, for example, may carry on several functions provided he clearly differentiates between them in operation and this differentiation in principle is a vital conception in practice. Inspection is treated particularly well.

In the treatment of time study, the author falls into the error, all too common, of ignoring, in the actual timing, the necessary and the unnecessary lost time. In continuous timing

such as he very properly advocates, the elements should not be entered in advance but should be written by name as they occur or, if the times are too short for this, they may be listed in advance in a separate place and symbolized. In this way every delay may be also timed, distinguishing between necessary and unnecessary delays. By this plan the fatigue allowances may be determined by time study instead of by theory.

The stop watch shown as "A Standard Stop Watch" with the slide at the side to start and stop the movement, is of a type used some forty years ago and, in the best practice, has been superseded for continuous timing, the only proper method, by a watch with all movements, start, stop and throw-back, from the stem.

The book as a whole, as indicated at the beginning of this review, is well worked out and presents worth-while information.

*Industrial Health, Asset or Liability.* By C. O. Sappington, H. M. Van Hoesen, Jr., Inc., Chicago, pages xviii, 284. (\$3.75.)

Reviewed by DR. CAREY P. McCORD, *Medical Director, The Industrial Health Conservancy Laboratories, Detroit.*

Often it has been stated that had the gospels of Swedenborg been presented to the world as a philosophy instead of as a religion, they would have swept the earth. Dr. Sappington makes no such strategic blunder when he directs this publication to industry's management instead of to the medical profession. Book shelves are filled with texts, monographs, and reprints for the guidance of the physician, nurse, hygienist, safety engineer serving industry. All too often the industrialist, the executive, the labor relations director, the superintendent, have been kept in a shadowy zone as to the import of health conservation of workers. To large numbers of otherwise astute members of management, the medical department is still not other than a much expanded first-aid kit. Steering away from nearly all technical matters, this author presents without verbiage the gospels of health in industry in a manner to captivate and motivate management. Industry's management, inadequately educated in the values that lie in properly conducted personnel services in industry, have in some instances and in some quarters been a bit dazed in their efforts to appraise industrial medical activities. This book is a daze dispeller, confusion eliminator, and general remover of vision distorting eye scales. This is accomplished in the following chapters:

1. General Discussion
2. Evolution and Organization of an Industrial Health Service
3. Health Service in the Small Group
4. Fundamentals of an Ideal Service
5. The Philosophy of Health
6. Health Procedures Needing Greater Application in Industry
7. Occupational and Nonoccupational Factors Compared
8. Some Special Problems
9. The Administration of Industrial Health
10. The Industrial Physician
11. The Industrial Nurse
12. Community Relationships

13. Does Industrial Health Work Pay?
14. Some General Conclusions
15. Sources of Information.

A special section in the back of the book is devoted to examination forms and industrial survey forms.

This book while generally pointed to industry's management is by designation prepared for

Business Executives  
Public Health Officers and Agencies  
Labor Relations Directors  
Management Consultants  
Personnel Directors  
Industrial Physicians and Surgeons  
Industrial Nurses  
Safety Engineers

As appraised by this reviewer, this book especially belongs in two places—on the desk of that man in industry who controls policies, approves budgets, makes appropriations, and on the desks of all those executives who hold industrial medicine in mild but not scornful contempt, but who provide many stumbling blocks to the proper growth year by year of medical services in their plants. This book is destined to make many new allies for the medical department among lukewarm members of industrial management. This book may be somewhat disappointing to some physicians, nurses, safety engineers and industrial hygienists, due to the absence of technical materials, new procedures—this just isn't that kind of a book. An even greater service is rendered these medical workers. This book carries their problems to the front office. In proportion to the reading of this book by industry's management, there will be seeing eye to eye between industrial physicians, nurses, engineers and hygienists on the needing end and management on the providing end. A stereoscopic view of industrial medicine is provided by this forthright book.

*Public Policy.* Edited by C. J. Friedrich and Edward S. Mason, Harvard University Press, Cambridge, Mass., 1940, pages xiii, 391. (\$3.50.)

*Reviewed by* PHILLIPS BRADLEY, *Professor of Political Science, Queens College, Flushing, N. Y.*

This, the first of an annual series of papers issued under the auspices of the Harvard Graduate School of Public Administration, inaugurates a notable research venture in the field. Here, in eleven papers, questions centering chiefly on the regulatory process in industrial, labor and fiscal control are analyzed by men with practical as well as theoretical interest and experience. Four papers deal with industrial control, two with fiscal procedures, one with labor market control and four with the techniques of regulation in the public administration sense.

The questions of regulatory control discussed here deal primarily with problems of over-all management. Considerations of policy rather than with its implementation infuse the authors' approach throughout—whether it is a specific question of labor market control or the more general problem of constitutional dictatorship. Experience and data are related to the issues of public policy from other countries as well as from American administrative practice.

These papers are a significant contribution to the science of administration. Not since Gulick and Urwick's *Papers* has a comparable experiment in collating theory and practice at the over-all level been attempted. The spirit of the experiment—and the tenor of the volume—is well represented by Professor Friedrich's comment that,

"The starting point of any study of responsibility must be that even under the best arrangements a considerable margin of irresponsible conduct of administrative activities is inevitable. . . . It is at this point that the decisive importance of policy determination becomes apparent. Too often it is taken for granted that as long as we can keep the government from doing wrong we have made it responsible. What is more important is to insure effective action of any sort. To stimulate initiative, even at the risk of mistakes, must nowadays never be lost sight of as a task in making the government's services responsible."

From this perspective, individual authors work out, with consistent insight and acute sense for the relevant, the detailed appraisal of practice and theory in the areas which they analyze.

*Labor Economics and Labor Problems.* By Dale Yoder, McGraw-Hill Book Company, Inc., New York, pages xii, 669. (\$3.50.)

*Reviewed by* JOHN C. SHOVER, *Director of Personnel, National Labor Relations Board, Washington, D. C.*

This compact compendium of 669 pages deals with certain phases of employment, unemployment, working conditions, wage groups, wage theories and organization of working groups. The material is descriptive, statistical and analytical without attempting to be anything other than informative and explanatory.

The introduction informs the reader that labor problems are pathological phases of the processes and principles having to do with labor in its economic and social activities. There follows a brief survey of aspects of labor problems, the nature of capitalistic industry and of industrial unrest. After the analysis of unemployment, the remedies and relief of unemployment are systematically set forth but with no fervor for or against any particular proposal.

The various theories of wages are presented without critical evaluation. Then concrete data are given as to wages by industries and by groups, as to wealth distribution and as to standards of living. The author then discusses hours of work because he sees fit to conclude that hour reduction may result in inefficiencies and unemployment as well as lowering standards of living. Separate discussion as to the nature of problems, legislation, influencing factors and trends, is given to each working group such as aged workers, child labor, women, immigrant, convict and negro labor.

Three chapters deal with labor organization. After a brief historical sketch, there is described the nature of unions as to purpose, membership and organization. The analysis of union policies and practices shows how unions try to accomplish their purposes, and how these efforts influence economic trends. The high lights are flashed on the legal status of unions, their methods such as strikes and boycotts, and on legal developments pertaining to labor injunctions. The final chapter of the book briefly mentions various approaches to labor problems, such as

employers' associations, scientific management, profit sharing, collective bargaining, union-management co-operation, war-chests, spies, paternalism, press and finance control, and political maneuvering.

The language is not as direct as it could be, but it is not difficult to read. The book has a great amount of significant information which it endeavors to present in a detached viewpoint. The author consistently evades discussion of the more lively questions of human emotions, attitudes, ideals, or with types of leadership, or of how these problems or processes have any bearing on the testing of our form of representative government. Questions and reference lists at the end of each chapter stimulate and assist any reader as well as students for whom the book is seemingly intended.

*Profitable Ideas for Management of Personnel.* Edited by Edward N. Hay. Section of "Business Ideas for Increasing Profit," Prentice-Hall, Inc., New York, 1940. Loose-Leaf Business Service (\$25.00 per year, entire service).

Reviewed by R. K. HUMPHREY, Director, Retail Employee Relations Commission, St. Paul, Minnesota.

The reader gets off to a bad start in the indexing system which has about the same effect on finding what you want as a tank trap has on a panzer division. This is particularly unfortunate in a publication of this type, in which the accessibility of the ideas offered should be as nearly instantaneous as possible. How such an arrangement can accommodate the addition of the subsequent periodic supplements which the loose-leaf form promises, challenges the imagination and should provide plenty of entertainment for executives with a flair for index filing.

The great virtue is that the patience and effort required in searching for a particular idea are almost infallibly rewarded. The ideas are there! From "Where to locate the employment office" through "How to construct an application blank," "How to dispose of applicants quickly at first interview" and "Steps in arriving at a sound wage plan" to "Tests of sound employer-employee relations policy" the offered ideas cover completely and in remarkable detail the essentials of effective personnel management. The ideas on selection, rating and training of employees are especially timely.

The fact that the "ideas" are literally case histories of such organizations as the Ford Motor Company, the General Electric Company and the Pennsylvania Company—chiefly the last, to such an extent in fact that Mr. Hay, who is its Personnel Officer, seems to be more author than editor—is substantial evidence that the ideas are likely to prove profitable in practice.

The "big company" sources should not mislead the smaller employer into thinking that the ideas are exclusively "big time stuff." Whether as author or editor, Mr. Hay has offered ideas which are as useful and adaptable to the small employer as they have proved to the large corporation. Moreover, the concise and explicit exposition supplemented with excellent model forms, records and charts, enables the small employer, who must handle

his personnel management personally on a part-time basis, to effect application of the ideas himself without hiring a personnel specialist or creating a special personnel department.

The large employer and the personnel specialist will find many ideas which will be useful at least as "refresher" reading and for "checking up" on their own personnel management ideas and policies.

*At the Bar of Public Opinion, A Brief for Public Relations.* By John Price Jones and David McLaren Church, Inter-River Press, New York, pages xix, 179. (\$2.00.)

Reviewed by H. A. RODDICK, McKinsey & Company, New York.

Public relations philosophies and techniques have made rapid strides forward during the past few years, but published material on the subject unfortunately has not kept pace. *At the Bar of Public Opinion* is therefore welcome because it presents the current thinking of leading public relations experts. It clearly sets forth a point of view, a method of approach, and techniques that should be of constructive help to those interested in developing sound public relations programs.

The need for establishing effective policies and methods dealing with public relations arises from the conflict of ideas among different groups. If one of these is more successful than another in advocating its ideas to the public, experience shows that it usually prospers accordingly. From this premise the authors proceed to analyze the forces in public relations and to indicate how intelligent relations programs can be planned.

The public relations program should begin by appraising and measuring public opinion. Techniques for doing this are considered by the authors, as are the pitfalls to be avoided. Some specific methods for moulding public opinion are discussed together with illustrations of public relations programs in action. A plan for conducting a public opinion poll is appended.

The authors stress justly that even the most capable public relations department or counsel cannot offset the adverse effect of basically unsound company policies. The company must come before the bar of public opinion with "clean hands." Public relations experts can then assist in seeing that the facts are presented fairly and through the proper media to the groups concerned—whether they be employees, customers, stockholders, the public or all four.

The book is elementary in some respects as it must be in its objective of securing wider consideration of public relations programs. It is at times repetitious and could have been shortened without loss of ideas. However, as a brief for public relations programs, it presents the case clearly and effectively and the point of view is sound. Certainly, with the growing importance of such programs in industry, *At the Bar of Public Opinion* should be worth-while reading for business executives.